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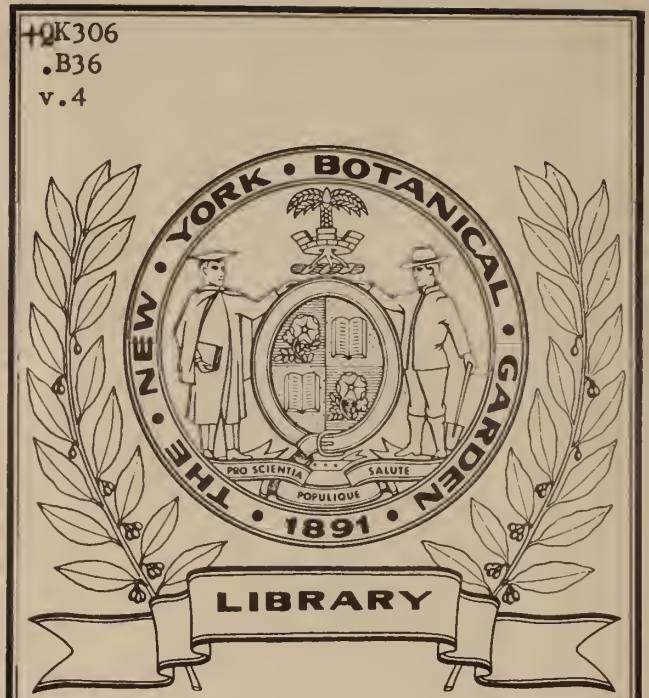
THE • NEW • YORK • BOTANICAL • GARDEN
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BRITISH

PHÆNOGAMOUS BOTANY,

OR,

FIGURES AND DESCRIPTIONS OF THE GENERA

OF

BRITISH FLOWERING PLANTS.

BY W. BAXTER, A. L. S. F. H. S. &c.

CORRESPONDING MEMBER OF THE BOTANICAL SOCIETY OF LONDON;
CURATOR OF THE BOTANIC GARDEN, OXFORD;
AND AUTHOR OF STIRPES CRYPTOGAMÆ OXONIENSES.

Flowers * * * * * * which not nice art
In beds and curious knots, but nature boon
Pours forth profuse on hill, and dale, and plain.

MILTON.

VOL. IV.

OXFORD.

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SOLD BY J. H. PARKER;
AND BY WHITTAKER AND CO. LONDON.

1839.

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TO

DAWSON TURNER, ESQ. M.A.

FELLOW OF THE ROYAL, ANTIQUARIAN, & LINNEAN SOCIETIES,

&c. &c. &c.

WHOSE MANY VALUABLE WORKS HAVE SO EMINENTLY CONTRIBUTED TO THE CULTIVATION & ADVANCEMENT

OF

BRITISH BOTANY,

This Volume

OF

BRITISH PHÆNOGAMOUS BOTANY,

IS MOST RESPECTFULLY DEDICATED,

IN GRATEFUL REMEMBRANCE OF HIS KINDNESS AND FRIENDSHIP;

AND WITH SENTIMENTS OF THE HIGHEST REGARD

AND ESTEEM;

BY HIS OBEDIENT,

AND VERY HUMBLE SERVANT,

WILLIAM BAXTER.

Botanic Garden, Oxford,
February 18, 1839.

29917

FLOWERS.

" Fairest of Nature's offspring! When the mind
Has dwelt full long upon her grander forms,
The skies now bathed in light, now dark with storms—
The sea, that like a crystal zone doth bind
Earth's solid frame,—or hills which seemed designed
To prop the ethereal arch,—'tis passing sweet
Downward to glance and see ye at our feet
Nestling in quiet beauty, leaf-enshrin'd.
The mead, the hedge-row seem your fittest home;
But be it where it may, or rock's rude breast,
Or gloomy cavern, like the wreathed foam
On the vex'd billow, or the waving crest
On warrior's dinted helm, so your meek bloom
Can even terror with a charm invest.
But other spell methinks than beauty's power
Binds ye to human bosoms; ye appear
To share our moods; ye have for grief a tear
When evening bends ye 'neath her dewy shower,
For mirth a smile when morning's shining hour
Decks ye with light and gladness; on the dead
How oft your sweetest incence do ye shed,
And strew, as is most meet, the bridal bower!
Ye love the sunny brow of youth to bind,
To see gay childhood sport your haunts among;
But most when years leave childhood far behind,
In strains as 'moral as the preacher's tongue,'
Ye love to raise and purify the mind,
And wean us from the world's deluding throng.'"

Bath and Cheltenham Gazette.

May 29, 1838.

Trollius europæus. Mountain Globe-flower.

Published by 4 W Barter

TRO'LLIUS*.

Linnean Class and Order. POLYA'NDRIA†, POLYGY'NIA.

Natural Order. RANUNCULA'CEÆ‡, Juss. Gen. Pl. p. 231.—Sm. Gr. of Bot. p. 136.—Lindl. Syn. p. 7.; Introd. to Nat. Syst. of Bot. p. 6.—Rich. by Macgilliv. p. 465.—Loud. Hort. Brit. p. 495.; Mag. of Nat. Hist. v. i. p. 137.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 2.—Mack. Fl. Hib. pt. 1. p. 4.—ROSALES; sect. RANUNCULINÆ; type, RANUNCULACEÆ; subty. HELLEBOREÆ, Burn. Outl. of Bot. v. ii. p. 614, 828, 837, & 839.—MULTISILIQUÆ, *Linn.*

GEN. CHAR. *Calyx (corolla* of Linn.*)* inferior, of 5 or many, deciduous, petal-like coloured sepals (fig. 1, *a*). *Corolla* (see f. 2.) of 5 or many, strap-shaped, petals *(*nectaries of *Linn.)* (see f. 1, *b*), shorter than the calyx, each with an obscure depression above the contracted base. *Filaments* (see fig. 2.) numerous, bristle-shaped, shorter than the sepals. *Anthers* terminal, strap-shaped, upright. *Germens* (figs. 3 & 5.) superior, numerous, sessile, columnar. *Styles* none. *Stigmas* pointed, spreading, shorter than the stamens. *Capsules (follicles)* (figs. 6 & 7.) numerous, cylindrical, pointed, recurved, collected into a round head. *Seeds* several, at the edges of the capsule, egg-shaped, smooth, somewhat triangular.

The *calyx* of 5 or many, coloured sepals; the *corolla* of 5 or many, small, strap-shaped petals, with an obscure depression above their contracted base; and the numerous, sessile, columnar, many-seeded *capsules;* will distinguish this from other genera in the same class and order.

One species British.

TRO'LLIUS EUROPÆ'US. European Globe-flower. Mountain Globe-flower. Globe Crowfoot. Locker-gowlans§.

SPEC. CHAR. Calyx of about 15 concave sepals, converging into a globe. Petals (nectaries of *Linn.*) from 5 to 10, the length of the stamens.

Engl. Bot. t. 28.—Curt. Brit. Entomol. v. iv. t. 190.—Linn. Sp. Pl. p. 782.—Huds. Fl. Angl. (2nd ed.) p. 244.—Willd. Sp. Pl. v. ii. pt. II. p. 1333.—Sm. Fl. Brit. v. ii. p. 597.; Engl. Fl. v. iii. p. 56.—With. (7th ed.) v. iii. p. 685.—Gray's Nat. Arr. v. ii. p. 713.—Lindl. Syn. p. 12.—Hook. Brit. Fl. p. 267.—Lightf. Fl. Scot. v. i. p. 295.—Purt. Midl. Fl. v. ii. p. 736.; and v. iii. p. 364.—Hook. Fl. Scot. p. 175.—Grev. Fl. Edin. p. 127.—Johnst. Fl. of Berw. v. i. p. 124.—Winch's Fl. of Northumb. and Durh. p. 38.—Flora Domestica, p. 153.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 44.—*Ranunculus globosus*, Ray's Syn. p. 272.—Johnson's Gerarde, p. 955.

Fig. 1. A Sepal and a Petal; *a.* a sepal; *b.* a petal.—Fig. 2. Petals, Stamens, and Pistils.—Fig. 3. Germens, and a single Petal.—Fig. 4. A separate Petal.—Fig. 5. A separate Germen.—Fig 6. A head of Capsules.—Fig. 7. A separate Capsule.

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* A name given to this plant by CONRAD GESNER. It is derived from *trol* or *trolen*, an old German word, signifying something round, in allusion to the form of the flowers; whence also the English name *Globe Flower*. DON.

† See folio 43, note †. ‡ See folio 129, *a*.

§ Supposed to be a corruption of *Lucken-Gowan (Cabbage-daisy)* of the Scots.

Localities.—Moist mountainous pastures, in the North of England; in the North of Ireland; and in Wales and Scotland.—*Cheshire;* In great plenty in a wood betwixt Stayley Hall and Scout Mill, at a place called Wems.—*Cumberland;* East side of Derwentwater; Kirkland; abundant in moist woods, meadows, &c.; Aspatria Mill.—*Derbysh.* Between Matlock and New Haven; Near Buxton; near Matlock Bath, and in the Via Gellia; Litton Dale, near Tideswell; and 2 miles from Matlock, on a hill called Vigelia. *Durham;* In Ravensworth, Heaton Dene, and Shipley Woods in Teesdale; woods in Weardale; Beamish; and near Egleston. Frequent in several bogs in the vale between Norton and Billingham.—*Lancash.* Borough-Hall Park; road-side near Dale-Park in Furness Fells; side of Coniston Water; and on the banks of the Loyne near Caton.—*Northumb.* Woods in Allondale; Heaton Wood; and Whitehill Dean, near Ovingham; near Belford, Alnwick, and Morpeth; at Catcherside, Roadley, and Long Witton; and in most of the woods, and on banks of numerous rivulets. *Shropsh.* Meadows at Hays, plentifully.—*Westmoreland;* About Shap; near Troutbeck; and on the banks of the Mint.—*Worcestersh.* Moist meadows at the foot of Bredon Hill.—*Yorksh.* Hovingham Woods, near Holly Hill. In Skirrith Wood, and moist woods about Settle. About Grassington in Wharf-dale; near Copgrove, very common; moist meadows near Ripon; Wensley Dale; by Malham Cove; Settle Bridge; Craven; Richmond; Wood at Clayton's Bridge; Mill Island; and on the banks of the Ribble.—WALES. *Brecknocksh.* Valleys of the Black Mountains.—*Carnarvonsh.* Meadows below Penrhyn; in the hollow immediately below the cataract in Caunant Mawr; near Dolbadarn Castle; in the Vale of Llanberris; and in the meadows near Llyn Cowlid, a lake in the mountains above, and nearly North of Capel Cerig. Rocks in Cwm Idwel; Clogwyn dû'r Arddû; and Crib y Ddescil; banks of the Ogwen, a few miles above Bangor, and thence up the mountains; Twll du; Llanberris.—*Denbighsh.* Frequent.—*Glamorgansh.* Between Pont Nedd Vachn and Usgoed Eynon Garn.—*Merionethsh.* Dolgelle; boggy grassy lands to the left of the road from Dolgelle to Trawsfynaid.—SCOTLAND. In several places in the vicinity of Berwick-upon-Tweed; banks of the water of Leith, opposite Newmill above Currie; meadow-ground South of Ravelrig-toll; near Borthwick Castle; Lugton Woods; woods at Mid-Calder; banks of the Clyde at Kenmuir; Daldowie; Bothwell, and the falls.—IRELAND. Convoy and Lough Garton, county of *Donegal.*

Perennial.—Flowers in May and June.

Root fibrous, tufted. *Stems* several, from 1 to 2 feet high, round, smooth, hollow, leafy, branched towards the top. *Leaves* smooth, dark green, 5-parted, the lobes variously divided and cut; the radical ones on long stalks. *Flowers* large and handsome, of a bright yellow, almost globular from the roundish connivent sepals of the calyx. *Petals (nectaries* of Linn.*)* (fig. 4.) strap-shaped, of nearly the same hue as the sepals, but scarcely half so long. *Capsules* (figs. 6 & 7.) nearly cylindrical, transversely ribbed, terminated by a crooked point, which turns outwards, giving the head (fig. 6.) a star-like appearance. *Seeds* black and shining.

The large handsome flowers of this plant have obtained for it a place in the flower-garden, where it thrives best in a moist shady situation. It is a native almost throughout the whole of Europe. The country people of Westmorland, Scotland, and Sweden, consider it a sort of festival flower, going in parties to gather it for the decoration of their doors and apartments, as well as their persons.—It is the *Lucken-gowan* of Allan Ramsey:—

> "We'll pou the daisies on the green,
> The *lucken-gowans* frae the bog;
> Between hands now and then we'll lean,
> And sport upon the velvet fog."

Fragária vesca. Wood Strawberry. 4

C. Mathews Del. & Sc. Pub^d by W. Baxter Botanic Garden Oxford 1837

FRAGA'RIA*.

Linnean Class and Order. ICOSA'NDRIA†, POLYGY'NIA.

Natural Order. ROSA'CEÆ, Juss. Gen. Pl. p. 334.—Sm. Gram. of Bot. p. 171.—Lindl. Syn. p. 88.; Introd. to Nat. Syst of Bot. p. 81.—Rich. by Macgilliv. p. 528.—Loud. Hort. Brit. p. 512.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 523.—Mack. Fl. Hibern. pt. i. p. 85.—ROSALES; sect. ROSINÆ; subsect. ROSIANÆ; type, ROSACEÆ; subtype, FRAGARIDÆ; Burn. Outl. of Bot. v. ii. pp. 614, 683, 699, & 700.—SENTICOSÆ, *Linn.*

GEN. CHAR. *Calyx* (see fig. 1.) inferior, of 1 flat, permanent sepal, deeply divided into 10 spreading segments, the 5 alternate ones external and smallest. *Corolla* of 5 roundish, spreading petals (fig. 2.), attached to the rim of the calyx by their short claws, opposite to its outer segments. *Filaments* (see fig. 1.) numerous, from the rim of the calyx, awl-shaped, upright, shorter than the corolla, permanent. *Anthers* roundish, incumbent, of 2 cells, deciduous. *Germens* (fig. 4.) superior, numerous, roundish, small, collected into a round head. *Styles*, 1 to each germen (see figs. 6 & 7.), lateral, short, incurved, permanent. *Stigmas* simple, blunt. *Berry* (fig. 5.) spurious, formed of the enlarged *receptacle* of the *seeds* become pulpy, coloured, egg-shaped or roundish, abrupt at the base, finally deciduous. *Seeds* (*nuts* of HOOKER and LINDLEY; *carpels* of DON,) numerous, naked, scattered over the surface of the large fleshy receptacle or berry, roundish egg-shaped, acute, smooth and even (see figs. 6 & 7).

The 10-cleft *calyx;* the *corolla* of 5 petals; and the *seeds* or *nuts* being placed on the surface of a large fleshy, deciduous *receptacle;* will distinguish this from other genera in the same class and order.

Three species British.

FRAGA'RIA VE'SCA. Eatable Strawberry‡. Wood Strawberry.

SPEC. CHAR. Leaflets plicate, thin, pubescent beneath. Fruit pendulous. Calyx at length reflexed. Hairs of the Peduncles widely spreading; those of the pedicels close-pressed, silky.

Eng. Bot. t. 1524.—Linn. Sp. Pl. p. 708.—Huds. Fl. Angl. (2nd ed.) p. 221.—Willd. Sp. Pl. v. ii. pt ii. p. 1090.—Sm. Fl. Brit. v. ii. p. 546.; Engl. Fl. v. ii. p. 414.—With. (7th ed.) v. iii. p. 630.—Gray's Nat. Arr. v. ii. p. 584.—Lindl. Syn. p. 95.—Hook. Brit. Fl. p. 250.—Lightf. Fl. Scot. v. i. p. 267.—Sibth. Fl. Oxon. p. 160.—Abbot's Fl. Bedf. p. 112.—Davies' Welsh Bot. p. 51.—Purt. Midl. Fl. v. i. p. 245.—Relh. Fl. Cant. (3rd ed.) p. 203.—Hook. Fl. Scot. p. 162.—Grev. Fl. Edin. p. 115.—Fl. Devon. pp. 87 & 172.—Johnst. Fl. of Berw. v. i. p. 115.—Winch's Fl. of Northumb. and Durh. p. 35.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 542.—Walker's Fl. of Oxf. p. 144.—Bab. Fl. Bath. p. 15.—Loud. Encyclop. of Gard. (new edit. 1835) p. 939. parag. 5131.—Baxter's

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Fig. 1. Calyx and Stamens.—Fig. 2. A Petal.—Fig. 3. A Stamen.—Fig. 4. Receptacle and Germens divested of the calyx and corolla.—Fig. 4. The Ripe Fruit, formed of the enlarged fleshy receptacle of the seeds.—Figs. 6 & 7. Seeds.—Figs. 3 & 7 *a little magnified.*

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* From *fragans*, fragrant; on account of the fragrance of the fruit.

† See *Prúnus cérasus*, folio 100, note †.

‡ From the ancient practice of laying straw between the rows of plants, to keep the ground moist and the fruit clean.

Lib. of Agricul. and Hort. Knowl. (2nd ed.) p. 563.—Mack. Catal. of Plants of Irel. p. 49.; Fl. Hibern. pt. 1. p. 92.—*Fragária*, Ray's Syn. p. 254.—Johnson's Gerarde, p. 997.

Localities.—Woods and thickets; and on hedge-banks and heaths; common.

Perennial.—Flowers in May, June, and July.

Root somewhat woody, blackish, fibrous; throwing out long, slender, trailing, hairy *runners* above ground, which take root at intervals, and produce new plants. *Stems* from 4 to 8 inches high, upright, slightly leafy, clothed with soft spreading hairs. *Leaves* mostly radical, on long channelled, hairy footstalks, ternate; *leaflets* egg-shaped, serrated, pubescent beneath, the 2 lateral ones unequal at the base. *Flowers* panicled, or somewhat cymose, white, upright, their *common stalks (peduncles)* clothed with copious spreading hairs; their *partial ones (pedicels)* with upright or close-pressed silky pubescence. Segments of the *Calyx*, especially the smaller or external ones, often cloven at the point. *Fruit* drooping, egg-shaped, deep scarlet, pulpy, studded with the small smooth *seeds* or *nuts*.

The fruit (which is the fleshy receptacle of the seeds become enlarged and pulpy) is fragrant, gratefully acid and aromatic, and from its cooling quality is particularly acceptable in Summer. Eaten either alone, or with sugar and cream, there are few constitutions with which strawberries, even when taken in large quantities, are found to disagree. Further, they have properties which render them in most conditions of the animal frame positively salutary; and Physicians concur in placing them in their small catalogue of pleasant remedies. They promote perspiration, and dissolve the tartarous incrustations of the teeth. Persons afflicted with the gout or stone have found relief from using them very largely; and Hoffman says, he has known consumptive people cured by them. The bark of the root is astringent.

Many varieties of the Wood Strawberry are cultivated in gardens. Mr. Neill informs us, in his *Horticultural Tour* in *Flanders*, *Holland*, and *France*, p. 210, that at the Hague, Leyden, and Haarlem, the native species, *Fragaria vesca*, is preferred for culture, and is there very generally known by the name of *Boskoeper* strawberry, from the circumstance of the plants being procured from the woods at Boskoop. It is found to possess, with proper treatment, the property of continuing very long in fruit, like the Alpine Strawberry in England. At Haarlem, the fruit is sometimes gathered for nine months in succession, from March till November; but it is to be understood, that different lines of the plants have been dressed at different periods of the season, and that attention has been paid to watering the rows during the parching droughts in summer. The cultivated plants are regarded as exhausted after the second year; they are therefore rooted up and destroyed, and a new supply is obtained from Boskoop.

Two minute, parasitic fungi, *Arégma obtusdtum*, Hook. Brit. Fl. v. ii. pt. ii. p. 359; and *Uredo Potentillárum*, ibid. p. 382; are found, occasionally, on the leaves of this species of *Fragaria*; but they are both much more common on the leaves of *Potentilla Fragariastrum*.

Mr. Nelson, a very intelligent man, and an excellent gardener, who has, for nearly 40 years, had the management of the gardens of A. Grimes, Esq. of Coton House, near Rugby, in Warwickshire, informed me, in 1831, that the *Hautboy* strawberry, *Fragaria elatior*, was growing wild in the plantations and spinnies about that place, in such abundance, that he usually procured it from thence to cultivate in his garden.

Gnaphalium dioicum Mountain Cudweed 4

1804

Pub.d by W. Baxter, Botanic Garden, Oxford. 1837.

C. Mathews Sc.

GNAPHA'LIUM*.

Linnean Class and Order. SYNGENE'SIA†, POLYGA'MIA, SUPE'RFLUA‡.

Natural Order. COMPO'SITÆ§; tribe, CORYMBI'FERÆ||, *Juss.*—Lindl. Syn. pp. 140 & 142.; Introd. to Nat. Syst. of Bot. pp. 197 & 199.—Mack. Fl. Hibern. p. 142.—COMPO'SITÆ; subord. CARDUA'CEÆ; Loud. Hort. Brit. pp. 520 & 521.—SYNANTHE'REÆ, Rich. by Macgilliv. p. 454.—CORYMBI'FERÆ, sect. 1. Juss. Gen. Pl. p. 177.—Sm. Gram. of Bot. pp. 121 & 123. Engl. Fl. v. iii. p. 334.—SYRINGALES; subord. ASTEROSÆ; sect. ASTERINÆ; subsect. ASTERIANÆ; type, ASTERACEÆ; Burn. Outl. of Bot. pp. 900, 901, 920, 924, & 926.—COMPOSITÆ, *Linn.*

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) roundish, imbricated; *scales* (see fig. 2) membranous, often coloured, converging. *Corolla* compound; *florets* of the disk perfect, tubular; their limb 5-cleft (see figs. 3 & 4); some in the very centre occasionally abortive, being destitute of stamens, and often of corolla also; *florets* of the circumference, if present, slender, or awl-shaped, mostly undivided. *Filaments* (see figs. 5 & 6.) 5, hair-like, short. *Anthers* in a cylindrical tube (see fig. 5). *Germen* (see fig. 4.) inversely egg-shaped, angular. *Style* (fig. 7.) thread-shaped, the length of the floret. *Stigmas* 2, spreading, notched. *Seed-vessel* none, except the permanent shining coloured calyx. *Seeds* inversely egg-shaped, small, alike, and usually perfect, in all the florets. *Pappus (down)* (figs. 4 & 8.) either simple, or variously feathery. *Receptacle* (fig. 9.) naked.

Distinguished from other genera, (with the corolla of the marginal florets obsolete, or wanting,) in the same class and order, by the imbricated, filmy, coloured scales of the *involucrum;* the awl-shaped *florets* of the circumference, when present; the rough, or feathery *pappus;* and the naked *receptacle.*

Eleven species British.

GNAPHA'LIUM DIO'ICUM. Dicœcious Cudweed. Mountain Cudweed. Mountain Cotton-weed. Mountain Cat's-foot.

SPEC. CHAR. Shoots procumbent. Stems unbranched. Root-leaves spathulate. Corymbs simple, terminal. Flowers dicœcious; inner scales of the involucrum (fig. 2.) elongated, obtuse, coloured.

Engl. Bot. t. 267.—Linn. Sp. Plant. p. 1199.—Huds. Fl. Angl. (2nd. ed.) p. 360.—Willd. Sp. Pl. v. iii. pt. iii. p. 1882.—Sm. Fl. Brit. v. ii. p. 869.; Engl. Fl. v. iii. p. 413.—With. (7th ed.) v. iii. p. 926.—Hook. Brit. Fl. p. 356.—Lightf. Fl. Scot. v. i. p. 470. t. 20. f. 1.—Sibth. Fl. Oxon. p. 250.—Davies' Welsh Bot. p. 77.—Purt.

Fig. 1. Involucrum.—Fig. 2. A inner Scale of the Involucrum.—Figs. 3 & 4. Separate Florets, with their pappus.—Fig. 5. Stamens and Pistil.—Fig. 6. A separate Stamen.—Fig. 7. Germen, Style, and Stigmas.—Fig. 8. A single Ray of the Pappus.—Fig. 9. Receptacle.—Figs. 4, 5, 6, 7, & 8, *more or less magnified.*

* From *Gnapheus.* Gr. *a fuller;* certain species being soft and woolly as the nap of cloth: and, according to some writers, used as a substitute for cotton or flax, in filling couches and mattresses, and hence denominated *Cotton-weed.* WITHER.

† See folio 91, note †. ‡ See folio 36, note ‡.

§ See folio 27, a. || See folio 36, a.

Midl. Fl. v. ii. p. 743.—Relh. Fl. Cant. (3rd ed.) p. 337.—Hook. Fl. Scot. p. 240.—Grev. Fl. Edin. p. 176.—Johnst. Fl. of Berw. v. i. p. 182.—Winch's Fl. of North. and Durh. p. 53.—Walker's Fl. of Oxf. p. 236.—Mack. Catal. of Pl. of Irel. p. 72; Fl. Hibern. pt. i. p. 145.—*Gnaphalium montanum album*, Ray's Syn. p. 181.—*G. montanum purpureum et album*, Johnson's Gerarde, p. 640.—*Antennária dioica*, Gærtner.—Lindl. Syn. p. 144.—*A. montana*, Gray's Nat. Arr. v. ii. p. 458.

Localities.—In dry mountainous pastures and heaths.—*Oxfordshire;* Woodcot Heath: Dr. Sibthorp.—*Cambridgeshire;* Gog-magog Hills; Shelford Moor; Newmarket Heath; Gamlingay: Rev. R. Relhan.—*Cheshire;* Mountains above Stayley: Mr. Bradbury.—*Cornwall;* By the road-side, a short distance above Hayle Bridge towards Camborne: Mr. H. Watson, in N. B. G. Frequent: Hudson.—*Cumberland;* Kirkland, Brampton, and Penrith Fell: Hutchinson. Ravine of the Screes near Wastwater: Mr. Wood. Winside Hill, Derwentwater: Mr. H. Watson. Watendlath: N. B. G.—*Derbyshire;* Hills between Hayfield and Kinder Scout: Mr. O. Sims. At Arbor Low, between Buxton and Ashbourne: Rev. W. T. Bree.—*Durham;* Moor above Beamish; Gateshead Fell: N. J. Winch, Esq. Common in Teesdale Forest: Rev. J. Harriman.—*Lancashire;* Yealand Common: Robson.—*Lincolnshire;* On Bernak Heath: Ray. Grantham Heath: D. Turner, Esq.—*Norfolk;* On Stratton Strawless Heath, near Norwich: Sir J. E. Smith. Swaffham Heath: Mr. Pitchford.—*Northamptonshire;* Upon Bernack, and Wittering Heaths: Morton.—*Northumberland;* Prestwick Car; and Moors near Newcastle: N. J. Winch, Esq.—*Shropshire;* Road from Trebrodind to Chin: Dr. Evans.—*Suffolk;* On Canham Heath, near Bury: Mr. Pitchford.—*Westmoreland;* Kendal Fell: Robson. Kirkston, leading from Ambleside to Patterdale: Rev. J. Dodd.—*Yorkshire;* On Ingleborough; Bulmer, and Wilburn Moors; Barton Heights near Malton; and Rosedale-head near Whitby; near Leeds, and Thorp Arch; pastures in Craven; New Park near Askrig, Wensleydale; Coppgrove; Ais-la-Beck; and the Race-ground, near Richmond: N. B. G.—Frequent in WALES, SCOTLAND, and IRELAND.

Perennial.—Flowers in June and July.

Root somewhat woody, with many long simple fibres. *Stems* upright, simple, from 3 to 7 inches high, white, cottony, leafy, accompanied at the base by several prostrate, leafy runners, by which the plant is increased. *Leaves* scattered; those on the runners inversely egg-shaped, tapering at the base into a leafstalk; those on the stems spear-shaped, sessile; all green and smooth above; very white and cottony beneath. *Flowers* from 3 to 8, white, purple, or reddish; terminating the stem in a kind of corymb. Scales of the *involucrum* blunt, the outer short, green and cottony; the inner widening upwards, long, smooth, shining, white, often rose-coloured, especially in the fertile plants. *Anthers* with two bristles at the base (see fig. 6). *Stigmas* truncate. *Seeds* short. *Pappus* sessile, partly rough, partly feathery, and somewhat tufted. The redder *florets* in general have the most perfect *pistil*, without even the rudiments of *stamens*.

This is a very elegant little plant, the flowers of which retain their freshness for a great length of time after they are gathered, a property which renders it deserving of a place in the flower-garden. It makes a pretty variety, mixed with the foreign species of *Everlasting*, for forming the dried winter bouquet, &c. The *Gnaphalium*, or *Everlasting*, is considered the emblem of never-ceasing remembrance, from its being so frequently used on the Continent to decorate the monuments and graves of departed friends; but it is not consigned alone to the use of the grave, for we frequently meet with it ornamenting the vase of the saloon, and decorating our chimney-pieces. The ancients crowned the images of their gods with garlands made of these flowers, and from hence they were frequently called God's Flowers. In Spain and Portugal they are still used to decorate the altars and the images of the Saints.

Sherárdia arvensis Blue Sherardia ☉

C. Mathews. Del. & sc.

Publd by W. Baxter, Botanic Garden, Oxford. 1837

SHERA'RDIA.

Linnean Class and Order. TETRA'NDRIA †, MONOGY'NIA.

Natural Order. STELLA'TÆ ‡, *Linn.*—Lindl. Syn. p. 128.; Intr. to Nat. Syst. of Bot. p. 202.—RUBIA'CEÆ, Juss. Gen. Pl. p. 196.—Sm. Gram. of Bot. p. 126.—Engl. Fl. v. i. p. 196.—Rich. by Macgilliv. p. 459.—Loud. Hort. Brit. p. 519.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 453.—Mack. Fl. Hibern. p. 129.—SYRINGALES; subord. ASTEROSÆ; sect. RUBIACINÆ; type, RUBIACEÆ; Burn. Outl. of Bot. v. ii. pp. 900, 901, 902, & 914.

GEN. CHAR. *Calyx* (see fig. 1, *a.*) small, superior, of 1 sepal, with 4 or 6 segments or teeth, permanent. *Corolla* (see fig. 1, *b.*) of 1 petal, funnel-shaped; tube cylindrical; limb in 4, equal, flat, acute segments. *Filaments* (see fig. 1.) 4, from the mouth of the tube, recurved. *Anthers* roundish, 2-lobed. *Germen* (see fig. 1.) inferior, of 2 round or oblong lobes. *Style* (fig. 2.) hair-like, 2-lobed at the apex. *Stigmas* bluntish or capitate. *Fruit* (fig. 3.) dry, crowned with the permanent teeth of the calyx, divisible into 2 1-seeded portions (mericarps, *Don*), flat on one side, convex on the other (see figs. 3, 4, & 5).

The funnel-shaped, 4-cleft *corolla;* and the dry *fruit*, crowned with the permanent calyx; will distinguish this from other genera in the same class and order.

One species British.

SHERA'RDIA ARVE'NSIS. Field Sherardia. Little Field-madder. Little Spur-wort.

SPEC. CHAR. Leaves about 6 in a whorl. Flowers terminal, sessile, umbellate.

Engl. Bot. t. 891.—Curt. Fl. Lond. t. 315. Curt. Brit. Entom: v. ix. t. 388.—Linn. Sp. Pl. p. 149.—Huds. Fl. Angl. (2nd ed.) p. 66.—Willd. Sp. Pl. v. i. pt. 1. p. 574.—Sm. Fl. Brit. v. i. p. 171.; Engl. Fl. v. i. p. 196.—With. (7th ed.) v. ii. p. 219.—Gray's Nat. Arr. v. ii. p. 480.—Lindl. Syn. p. 130.—Hook. Brit. Fl. p. 66.—Lightf. Fl. Scot. v. i. p. 114.—Sibth. Fl. Oxon. p. 57.—Abbot's Fl. Bedf. p. 32.—Davies' Welsh Bot. p. 15.—Purt. Midl. Fl. v. i. p. 99.—Relh. Fl. Cant. (3rd edit.) p. 57.—Hook. Fl. Scot. p. 50.—Grev. Fl. Edin. p. 34.—Fl. Devon. pp. 26 and 162.—Johnst. Fl. of Berw. v. i. p. 36.—Winch's Fl. of Northumb. and Durh. p. 9.—Walker's Fl. of Oxf. p. 36.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 637.—Jacob's West Devon and Cornw. Fl.—Bab. Fl. Bath. p. 24.—Mack. Catal. of Pl. of Irel. p. 17.; Fl. Hibern. p. 132.—*Rubeola arvensis repens cærulea*, Ray's Syn. p. 225.

LOCALITIES.—In fallow-fields, and among corn, on a light, sandy, or gravelly soil; frequent.

Annual.—Flowers from May to August.

Root small, tough and fibrous, of a reddish-brown colour. *Stems* several, slender, branched, spreading, mostly decumbent, from 3 to

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Fig. 1. A separate Flower; *a.* the Calyx; *b.* the Corolla.—Fig. 2. Style and Stigmas.—Fig. 3. Half the Fruit.—Fig. 4. A Fruit cut transversely.—Fig. 5. One half of the same.—*All a little magnified.*

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† See folio 46, note †. ‡ See folio 135. *a.*

8 inches or more long, square, leafy, and clothed, especially on the angles, with numerous, short, bristly hairs, which point backwards. *Leaves* verticillate, 6 in a whorl, those on the upper part of the stems elliptic-spear-shaped, the lower ones shorter, broader, and nearly egg-shaped, all entire, pointed, and rough, especially on the edges and keel, with white bristly hairs, which are longer than those on the stem. *Flowers* in small, nearly sessile umbels, terminating the stems and branches, each umbel accompanied by an involucrum of about 8 leaves. *Calyx* with 6 teeth, permanent, crowning the fruit. *Corolla* slender, of a pale purplish-blue. *Anthers* tawny. *Stigmas* capitate. *Fruit* of 2 globular, closely combined *seeds (mericarps* of Don*)*, rough with very minute bristles, and crowned with the somewhat enlarged calyx.

This little plant has much the habit of a *Galium*, but it is readily distinguished from that genus by the fruit being crowned by the calyx.

It was named *Sherardia* by DILLENIUS, in honour of his friend Dr. WILLIAM SHERARD. This distinguished patron of botanical science was a native of Bushby in Leicestershire; he was born in 1659, and after passing through Merchant Taylor's School, he entered St. John's College, Oxford, in 1677; of this college he afterwards became a Fellow, and took the degree of Bachelor of Arts, December 11, 1683. After this time he travelled much on the Continent; chiefly occupied in collecting plants, and in forming connexions with the most celebrated foreign Botanists of the day; such as HERMAN, BOERHAAVE, and TOURNEFORT. He is said to have been the author of a book published under the name of SAMUEL WHARTON, entitled, "*Schola Botanica*;" being a Catalogue of Plants exhibited by TOURNEFORT to his botanical class at Paris for several years, during a part of which SHERARD attended his lectures. He also edited HERMAN's "*Paradisus Batavus.*" Soon after 1702 he was appointed consul at Smyrna. During his residence there he had a country house at a place called Sedekio; here he collected specimens of all the plants of Natolia and Grecce, and began that famous Herbarium, which at length became the most extensive that had ever been seen as the work of one man. On his return he met with the celebrated DILLENIUS, whom he induced to accompany him to England in 1721; and in the year 1726 he commenced his designs for the advancement of Botany at Oxford, by giving £ 500 towards enlarging the Conservatory, and by presenting a great number of curious plants and a library of botanical works to the same establishment. He likewise made over to the Physic Garden his Herbarium, which rendered Oxford, in the eyes of LINNÆUS, pre-eminent among the Universities of Europe for its botanical treasures; and which Sir J. E. SMITH, only 16 years ago, pronounced as perhaps, excepting that of LINNÆUS in his own possession, the most ample, authentic, and valuable botanical record in the world. He died August 12, 1728; and by his will bequeathed £ 3000 to provide a salary for the Professor of Botany, on condition that the University should supply the annual sum of £ 150 towards the maintenance of the Garden, and that Dr. DILLENIUS should be chosen the first professor.

Dr. JAMES SHERARD, the younger brother of Dr. WILLIAM SHERARD, was early and strongly attached to his brother's favourite pursuit, and cultivated, at his country seat, at Eltham, in Kent, one of the richest gardens that England ever produced. This was also the retirement of his brother the consul, after his return from Smyrna; and it is immortalized by the publication, in 1732, of DILLENIUS's "*Hortus Elthamensis*;" an elegant and elaborate work, in 2 volumes folio, in which are described and figured, with the most circumstantial accuracy, 417 plants, all drawn and etched by DILLENIUS himself, consisting principally of such exotics as were then rare, or had been but lately introduced into England. Coloured copies of this work are extremely rare; one, coloured by DILLENIUS, is in the Library of the Oxford Botanic Garden,—See *Memorials of Oxford;* and *Pulteney's Sketches.*

Menyanthes trifoliata Common Buckbean. 4.

Pub. [illegible]
[illegible] W. Baxter Botanic Garden Oxford 1837.
S.W. Sc.

MENYA'NTHES*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. GENTIA'NEÆ, *Dr. R. Brown.*—Lindl. Syn. p. 177; Introd. to Nat. Syst. of Bot. p. 215.—Rich. by Maegilliv. p. 444.—Loud. Hort. Brit. p. 526.—LYSIMACHIÆ, *affinia*, Juss. Gen. Pl. pp. 95 & 97.—SYRINGALES; subord. PRIMULOSÆ; sect. GENTIANINÆ; Burn. Outl. of Bot. pp. 900, 958, & 1008.—PRECIÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 2.) inferior, permanent, of 1 sepal, in 5 deep, slightly spreading segments. *Corolla* (see fig. 1.) of 1 petal, funnel-shaped; tube short, somewhat dilated upward; limb spreading, in 5, more or less pointed, segments, bearded internally, with a simple margin. *Filaments* (see fig. 1.) 5, awl-shaped, short, attached to the tube, alternate with the segments of the limb. *Anthers* cloven at the base, upright. *Germen* (see fig. 3.) conical. *Style* (see fig. 3.) 1, cylindrical. *Stigma* capitate, with from 2 to 5 furrows. *Capsule* (figs. 4 & 5.) egg-shaped, 1-celled, 2-valved; the valves bearing the seed in their axis (see f. 5.)—*Leaves* ternate.

The 5-parted *calyx;* the monopetalous, funnel-shaped *corolla*, in 5 deep segments, hairy within, with a simple margin; the 2-lobed *stigma;* and the *capsule* of 1 cell, and 2 valves, bearing the seeds in their axis; will distinguish this from other genera in the same class and order.

One species British.

MENYA'NTHES TRIFOLIA'TA. Common Buck-bean, or Bog-bean. Marsh Trefoil.

SPEC. CHAR. Leaves ternate. Disk of the Corolla densely shaggy.

Engl. Bot. t. 495.—Curt. Fl. Lond. t. 210.—Woodv. Med. Bot. v. i. p. 5. t. 2.—Curt. Brit. Entomol. v. vii. t. 294!—Linn. Sp. Pl. p. 208.—Willd. Sp. Pl. v. i. pt. II. p. 811.—Huds. Fl. Angl. (2nd ed.) p. 85.—Linn. Fl. Lapponica, (2nd edit.) p. 52.—Sm. Fl. Brit. v. i. p. 225. Engl. Fl. v. i. p. 274.—With. (7th ed.) v. ii. p. 292.—Lindl. Syn. p. 179.—Hook. Br. Fl. p. 91.—Lightf. Fl. Scot. p. 137.—Sibth. Fl. Oxon. p. 73.—Abb. Fl. Bedf. p. 44.—Thornton's Fam. Herb. p. 98.—Davies' Welsh Bot. p. 21.—Purt. Midl. Fl. v. i. p. 122; and v. iii. p. 343.—Relh. Fl. Cant. (3rd ed.) p. 85.—Hook. Fl. Scot. p. 71.—Grev. Fl. Edin. p. 48.—Fl. Devon. pp. 36 & 153.—Johnst. Fl. Berw. v. i. p. 55.—Winch's Fl. of Northumb. and Durham, p. 13.—Walker's Fl. of Oxf. p. 52.—Perry's Pl. Varvic. Selectæ, p. 16.—Bab. Fl. Bath. p. 30.—Mack. Catal. of Plants of Irel. p. 22; Fl. Hibern. pt. I. p. 188.—*Menyánthes palustris*, Gray's Nat. Arr. v. ii. p. 340.—*Menianthes palustre triphyllum latifolium et angustifolium*, Ray's Syn. p. 285.—*Trifolium paludosum*, Johnson's Gerarde, p. 1191.

LOCALITIES.—In marshy and boggy places, watery meadows, and on the margins of rivers, pools, and wet ditches. Not uncommon.

Perennial.—Flowers in May and June.

Fig. 1. Corolla, opened vertically to show the stamens.—Fig. 2. The Calyx.—Fig. 3. The Calyx, Germen, Style, and Stigma.—Fig. 4. A Capsule.—Fig. 5. A Capsule with the valves opened.—Fig. 8. A Seed.

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* From *mene*, Gr. *a month;* and *anthos*, Gr. *a flower;* as continuing a month in blossom. WITHERING.

† See folio 48, note †.

Root creeping, long, jointed and fibrous. *Stems* procumbent, or somewhat ascending, nearly cylindrical, leafy, very cellular within. *Petioles (leaf-stalks)* cylindrical, stout; nearly concealing the stem by their dilated, sheathing base. *Leaflets* 3, equal, inversely egg-shaped, smooth, slightly waved at the margin, and obscurely toothed, each with a thick midrib. *Scape (flower-stalk)* upright, about 6 or 8 inches high, cylindrical, smooth, arising from within the sheaths of the petioles, and terminated by a raceme of *flowers*, each on a short pedicel, with an egg-shaped bractea at its base. *Calyx* wrinkled at the bottom. *Corolla* flesh-coloured on the outside, nearly or quite white within, the disk of its segments beautifully fringed with white filaments. *Anthers* yellow. *Fruit* an egg-shaped capsule about the size of a pea, of 1 cell, and 2 valves. *Seeds* egg-shaped, of a yellowish-brown colour, smooth and shining.

This is one of the most beautiful of our native plants, and is highly deserving the eulogium of the poet:—

> "Oft where the stream meandering glides,
> Our beauteous *Menyanthes* hides
> Her clustering, fringed flowers;
> Nor mid the garden's sheltering care,
> Of fam'd exotics rich and rare,
> Purple or roseate, brown or fair,
> A plant more lovely towers."

In the opinion of Mr. W. CURTIS it is equal to the *Kalmias*, the *Rhododendrons*, and the *Ericas* of foreign climes, "which are purchased at an extravagant price, and kept up with much pains and expence, while this delicate native, which might be procured without any expence, and cultivated without any trouble, blossoms unseen, and wastes its beauty in the desart air." To such as wish to have this plant flower with them in perfection, Mr. CURTIS recommends the following mode of cultivation. "Collect the roots of the plant either in Spring or Autumn, put them in a large pot (having a hole at the bottom) filled with bog earth, immerse the pot about two-thirds of its depth in water, in which it should continue; the advantage of this method is, that when the plant is coming into flower it may be brought into any room and placed in a pan of water, where it will continue to blossom for two or three weeks." A single root, which Mr. CURTIS treated in this manner, planted in the Spring, produced the ensuing May 8 flowering stems, many of which had 15 or 16 blossoms on them.

In the North of Europe, where hops are scarce, this plant has been used as a substitute in brewing ale: two ounces being equal to a pound of hops. The roots dried and powdered, and mixed with a small quantity of meal, have been used in Lapland for making bread, but it is extremely bitter and unpalatable. The dried leaves are sometimes smoked. An infusion of the leaves is extremely bitter, and is prescribed in rheumatisms and dropsies. A dram of them in powder proves drastic and emetic. It is sometimes given to destroy worms; and it has gained reputation in scorbutic disorders, a pint a day of infusion of the leaves removing inveterate cutaneous eruptions.

It has been said that it cures sheep of the rot; but from the Upsal experiments it appears that, though goats eat it, sheep seldom do. Cows, horses, and swine refuse it.

In and about Hamburgh, this is called *The Flower of Liberty*; and the inhabitants pretend that it grows only within the territories of that republic, and has never been seen in the South of Denmark, which adjoins it.

Glaux maritima. Sea-Milkwort. 4

C. Mathews Del. & Lt. Pub.d by W. Baxter Botanic Garden Oxford 1837.

GLAU'X *.

Linnean Class and Order. PENTA'NDRIA †, MONOGY'NIA.

Natural Order. PRIMULA'CEÆ, *Vent.*—Lindl. Syn, p. 182.; Introd. to Nat. Syst. of Bot. p. 225.—Rich. by Macgilliv. p. 431.—Mack. Fl. Hibern. p. 192.—PLANTAGI'NEÆ, Loud. Hort. Brit. p. 530.—SALICARIÆ, sect. 2. Juss. Gen. Pl. pp. 330 & 333.—Sm. Gram. of Bot. pp. 170 & 171.—SYRINGALES; subord. PRIMULOSÆ; sect. PRIMULINÆ; type, PRIMULACEÆ; subtype, PRIMULIDÆ; Burn. Outl. of Bot. pp. 900, 958, 1020, 1024, & 1025.—CALYCANTHEMÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, bell-shaped, coloured, of 1 sepal, in 5 deep, spreading, obtuse, recurved segments, permanent. *Corolla* none. *Filaments* (fig. 2.) 5, awl-shaped, upright, not longer than the calyx. *Anthers* roundish. *Germen* (fig. 3.) superior, egg-shaped. *Stigma* capitate. *Capsule* (fig. 4.) globose, pointed, of 1 cell, and 5 valves. *Seeds* about 5, roundish (see fig. 7.), attached to a central, globose, pitted *placenta* (see fig. 6).

The monosepalous, bell-shaped, 5-cleft, coloured *calyx;* and the superior, 1-celled, 5-valved *capsule;* will distinguish this from other genera, destitute of a *corolla,* in the same class and order.

One species British.

GLAU'X MARI'TIMA. Common Sea-milkwort. Black Saltwort‡. Newton's Knotgrass.

SPEC. CHAR.

Engl. Bot. t. 13.—Hook. Fl. Lond. t. 188.—Curt. Brit. Entomol. v. xii. t. 548.—Ray's Syn. p. 285.—Linn. Sp. Pl. p. 301.—Huds. Fl. Angl. (2nd ed.) p. 101.—Willd. Sp. Pl. v. i. pt. II. p. 1210.—Sm. Fl. Brit. v. i. p. 268. Engl. Fl. v. i. p. 336.—With. (7th edit.) v. ii. p. 340.—Gray's Nat. Arr. v. ii. p. 733.—Lindl. Syn. p. 183.—Hook. Brit. Fl. p. 109.—Lightf. Fl. Scot. v. i. p. 147.—Davies' Welsh Bot. p. 25.—Relh. Fl. Cant. (3rd ed.) p. 102.—Hook. Fl. Scot. p. 82.—Grev. Fl. Edin. p. 56 — Fl. Devon. pp. 43 & 142.—Johnston's Fl. Berw. v. i. p. 64.—Winch's Fl. of Northumb. and Durham, p. 16.—Burn. Outl. of Bot. v. ii. p. 1026.—Mack. Catal. of Pl. of Irel. p. 25.; Fl. Hibernica, p. 192.—*Glaux exigua maritima,* Johnson's Gerarde, p. 562.

LOCALITIES.—On the sea shore, and in muddy salt-marshes, abundant, "but from its being frequently concealed among grass, or under the edge of ditch banks, it does not obtrude itself upon the casual observer."—*Cambridgeshire;* Wisbeach; Bardwell Fens: Rev. R. RELHAN.—*Cheshire;* Shores of the sea, and estuaries: Mr. H. C. WATSON, in *New Bot. Guide.*—*Cornwall;* On the sea coast: Mr. H. C. WATSON, ibid.—*Cumberland;* Sea coast, Abbey Holm: N. J. WINCH, Esq.—*Devon;* Topsham marshes; Exminster marshes; at Hackney near Kingsteignton; Plymouth, &c.: *Fl. Devon.* Side of the river near Teignmouth: Mr. F. RUSSEL.—*Dorset;* In Portland Island: Dr. WITHERING. On Waste ground at the back of the promenade, Weymouth: Aug. 1837; Rev. A. BLOXAM.—*Durham;* Salt marshes on Tyne, Tweed, Blyth, Wear, Tees, &c.: N. J. WINCH, Esq. Banks of the Tyne, below Friar's Goose: R. BOWMAN, in N. B. G.—*Essex;* River side near Purfleet: Dr. J. MITCHELL, in *Fl. Metr.*—

Fig. 1. A Flower.—Fig. 2. Stamens and Pistil.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. Capsule.—Fig. 5. Transverse section of the same.—Fig. 6. The Placenta (receptacle of the seed).—Fig. 7. A Seed.—Figs. 2 & 3 *a little magnified.*

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* From *glaucus,* a sea-green colour.
† See *Anchusa sempervirens,* folio 48, note †.
‡ From its producing *salt* or *alkali* when burnt.

Gloucestersh. Near Bristol: Miss Worsley. Avon, by Clifton: Rev. H. T. Ellicombe. Below King's Weston, near Bristol: Dr. Withering.—*Hampshire:* Beach, Fareham: Rev. S. Palmer, in *Mag. Nat. Hist.* v. ii. p. 276.—*Kent;* On the coast: Mr. W. Pamplin, jun. South Kent: Rev. G. E. Smith. Between Plumstead and Erith: J. F. Young, in *Fl. Metrop.* Marshes about Dartford; about Greenhithe; and by the river side near Rochester: Mr. D. Cooper, in *Fl. Metrop.*—*Lancash.* On the sea shore: Mr. H. C. Watson, in N. B. G. Near Southport: G. Crosfield, Esq. North Shore, and Knott's Hole near Liverpool: Dr. Bostock.—*Norfolk;* Yarmouth: Mr. J. Paget, in N. B. G. Near Lynn: Mr. G. Cooper, ibid.—*Northumberland;* In salt marshes on Tyne, Tweed, Blyth, &c.: N. J. Winch, Esq.—*Somersetsh.* Near Huntspill: W. C. Trevelyan, Esq.—*Staffordsh.* Salt marsh at Ingestre: Mr. Bagot.—In *Sussex:* Rev. G. E. Smith.—*Yorksh.* Filby Bay near Scarborough: Rev. A. Bloxham, and E. F. Witts, Esq.—WALES. *Anglesey;* On the sea coast: Rev. H. Davies.—*Caernarvonsh.* On the sea shore: Mr. H. C. Watson, in N. B. G.—*Denbighsh.* On the coast: Mr. H. C. Watson, ibid.—*Merionethsh.* Sands, and mud banks near Burmouth: H. Woollcombe, Esq.—SCOTLAND. *Berwicksh.* On the sea shore in muddy places, abundant: Sir W. J. Hooker. Muddy places on the sea coast to the southward; and sides of the Tweed above the bridge: Dr. Johnston. Shores of the Frith; North Queensferry; and Musselburgh Links: Mr. Neill. About Burntisland and Pettycur: Dr. Greville.—IRELAND. Sea shores, and muddy salt marshes, abundant: Mr. J. T. Mackay.

Perennial.—Flowers in June and July.

Root long, thickish, and jointed; producing fibres from the joints. *Stems* procumbent at the base, then upright, from 2 to 5 inches high, branched round, smooth, very leafy. *Leaves* opposite, sometimes becoming alternate, especially towards the summit of the stem, sessile, elliptic-oblong, entire, smooth, pale on the under surface, darker green and marked with impressed punctures on the upper. *Stipulas* none. *Flowers* axillary, solitary, numerous, nearly sessile, of a delicate rose-colour, minutely sprinkled with deeper tints of the same colour.

The whole plant is smooth, succulent, and saltish to the taste. Cows are said to eat it.

——————" Nature never did betray
The heart that loved her; 'tis her privilege
Through all the years of this our life, to lead
From joy to joy; for she can so inform
The mind that is within us, so impress
With quietness and beauty, and so feed
With lofty thoughts, that neither evil tongues,
Rash judgments, nor the sneers of selfish men,
Shall e'er prevail against us, or disturb
Our cheerful faith, that all which we behold
Is full of blessings."

Wordsworth.

Milium effusum Spreading Millet-grass 4

C. Mathews. Del. & Sc

Pub.d by W. Baxter Botanic Garden Oxford 1837

MI'LIUM*.

Linnean Class and Order. TRIA'NDRIA†, DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 68.; Engl. Fl. v. i. p. 71.—Lindl. Syn. p. 293.; Introd. to Nat. Syst. of Bot. p. 292.—Rich. by Macgilliv. p. 393.—Loud. Hort. Brit. p. 542.—GRAMINA, *Linn.*—GRAMINA'LES; sect. PANICINÆ; type, MILIACEÆ; Burn. Outl. of Bot. v. i. pp. 359 & 366.

GEN. CHAR. *Panicle* loose, spreading. *Calyx* (see figs. 1 & 2.) of 2 nearly equal, concave, tumid, keeled, clasping, awnless glumes, containing a single *floret*. *Corolla* (see fig 2.) of 2, nearly equal, ribless, very smooth, awnless *palcæ*, the upper flat. *Nectary* cloven, membranous. *Filaments* (see fig. 2.) 3, hair-like, the length of the calyx. *Germen* (fig. 3.) egg-shaped. *Styles* (see fig. 3.) combined, or very short. *Seed* (figs. 4 & 5.) egg-shaped, coated with the horny *corolla*.

The loose, spreading *panicle;* the *calyx* of 2 glumes, as long, or a little longer than the paleæ, inclosing a single floret; and the *corolla* of 2 equal, smooth, awnless paleæ, which at length become hardened and closely invest the seed; will distinguish this from other genera in the same class and order.

The hardened *corolla*, forming a coat to the *seed*, affords a mark of distinction between this genus and *Agrostis*. SM.

Two species British.

M'ILIUM EFFU'SUM. Millet-grass.

SPEC. CHAR. Panicle glabrous, its branches subverticillate. Ligule (see fig. 6.) blunt.

Engl. Bot. t. 1106.—Curt. Fl. Lond. t. 248.—Knapp's Gram. Brit. t. 19.—Host. Gram. Austr. v. iii. p. 16. t. 22.—Graves' British Grasses, t. 31.—Linn. Sp. Pl. p. 90.—Huds. Fl. Angl. (2nd edit.) p. 29.—Willd. Sp. Pl. v. i. pt. 1. p. 360.—Leers (2nd edit.) p. 18. t. 8. f. 7.—Sm. Fl. Brit. v. i. p. 75. Engl. Fl. v. i. p. 87.—With. (7th ed.) v. ii. p. 153.—Gray's Nat. Arr. v. ii. p. 154.—Lind. Syn. p. 301.—Hook. Brit. Fl. p. 30.—Lightf. Fl. Scot. v. i. p. 92.—Sibth. Fl. Oxon. p. 35.—Abbot's Fl. Bedf. p. 13.—Purt. Midl. Fl. v. i. p. 72.—Davies' Welsh Bot. p. 8.—Relh. Fl. Cant. (3rd ed.) p. 28.—Hook. Fl. Scot. p. 24.—Grev. Fl. Edin. p. 15.—Sincl. Hort. Gram. Wob. pp. 20 and 403.—Fl. Devon. pp. 11 and 120.—Winch's Fl. of Northumb. and Durham, p. 5.—Walker's Fl. of Oxf. p. 18.—Perry's Pl. Varv. Selectæ, p. 7.—Bab. Fl. Bath. p. 56.—Mack. Catal. of Pl. of Irel. p. 12. Fl. Hibern. p. 297.—*Gramen miliaceum*, Ray's Syn. p. 402.—Johnson's Gerarde, p. 6.

LOCALITIES.—In moist shady places, in woods, &c. frequent.

Perennial.—Flowers in June and July.

Fig. 1. Calyx.—Fig. 2. Calyx, Corolla, and Stamens.—Fig. 3. Germen and Pistils.—Fig. 4. Seed invested with the Corolla.—Fig. 5. A Seed divested of the Corolla.—Fig. 6. A portion of the Leaf, showing the Ligula.—Figs. 1, 2, and 3, *a little magnified.*

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* From *mille*, a *thousand*, on account of its fertility; or, according to Théis, from the Celtic *mil*, a *stone*, from the hardness of its fruit. Sir W. J. HOOKER.

† See folio 56, note †.

Root creeping, fibrous. *Culms (stems)* upright, slender, 3 or 4 feet high, round, jointed, leafy, smooth. *Leaves* bright green, from 4 to 9 inches or a foot long, and about one-third of an inch broad, terminating gradually in a fine point; flat, with a single rib and rough edges. *Sheath* striated, smooth. *Ligula (stipula)* oblong, blunt, often jagged. *Panicle* large, often a foot long, and 8 inches wide, upright, loose, spreading, very much scattered from the various lengths of the secondary foot-stalks, which grow in half whorls, and give the plant an airy, light, and elegant appearance. *Flowers* solitary, egg-shaped, slightly drooping. *Calyx* (fig. 1.) permanently green, roughish, of 2 elliptical, expanded, concave, ribbed, nearly equal glumes. *Corolla* (see fig. 2.) nearly the shape and size of the calyx, to which it is opposite, not contrary; at first of a greenish-white, polished; after flowering yellowish and horny, the larger palea embracing the other, and both together forming a shining hard coat to the *seed*. *Awn* none. *Nectary* a deeply cloven membrane. *Anthers* deeply cloven at each end, of a yellow colour. *Styles* (see fig. 3.) short, combined. *Stigmas* feathery, white.—Mr. G. SINCLAIR says, that the branches of the panicle are often in whorls, diverging by glands fixed in the axils, which has caused it to be mistaken sometimes for *Poa retroflexa*, or *P. distans*.

"This Grass, in its natural state, seems to be confined to woods as its place of growth; it will thrive and grow, however, when transplanted to open exposed situations. It is remarkable for the lightness of its produce in proportion to its bulk. Birds are remarkably fond of the seeds; so much so, as to raise a doubt whether, for the sake of the seed only, it could be cultivated to advantage on the farm. But in covers, where game is preserved, there cannot be a better grass encouraged, as it will save the cornfields.

"About the beginning of August is the best season for sowing the seed. The surface of the ground, near the roots of the bushes, should be lightly stirred, and the seed scattered over it, and raked in; a few of the decaying leaves that cover the ground should be afterwards thrown over it.

"It flowers in the second week and latter end of June, and the seed is ripe in the middle of July and beginning of August." *Hort. Gram. Wob.*

Mr. KNAPP observes, that the word 'effusus' is not inaptly given to this Millet-grass, as the abundance of its seed sufficiently bears witness, and that from its quantity it merits some attention. Domestic poultry might perhaps thrive upon it; or it might be given with advantage to swine, and tend to diminish the consumption of bread corn; a desideratum that defective seasons have rendered distressingly necessary. Its foliage is eaten by cattle, but the quantity of herbage it produces is too small to render it an object of attention to the Farmer; and from its creeping root it would, if introduced into meadows, occupy the place of much more productive species.

Dryas Octopétala Eight petaled Dryas U

I.R.Del. Pub.d by W.Baxter Botanic Garden Oxford 1837 C.Mathews Sc

DRY'AS *.

Linnean Class and Order. ICOSA'NDRIA †, POLYGY'NIA.

Natural Order. ROSA'CEÆ, Juss. Gen. Pl. p. 334.—Sm. Gram. of Bot. p. 171.—Lindl. Syn. p. 88.; Introd. to Nat. Syst. of Bot. p. 81.—Rich. by Macgilliv. p. 528.—Loud. Hort. Brit. p. 512.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 523.—Mack. Fl. Hibern. pt. i. p. 85.—ROSALES; sect. ROSINÆ; subsect. ROSIANÆ; type, ROSACEÆ; subtype, FRAGARIDÆ; Burn. Outl. of Bot. v. ii. pp. 614, 683, 699, & 700.—SENTICOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1, *a.*) inferior, of 1 sepal, in 8 or 9 deep, spreading, equal or unequal segments, permanent. *Corolla* of from 5 to 8, occasionally 9, roundish, undivided, spreading petals, longer than the calyx, and attached by their claws to its rim. *Filaments* (fig. 1, *b.*) numerous, hair-like, from the rim of the calyx, much shorter than the corolla. *Anthers* small, roundish, of 2 lobes. *Germens* superior, numerous, small, oblong. *Styles* (fig. 1, *c.*) lateral, long and hair-like, straight, continuous (see fig. 3). *Stigmas* simple, smooth. *Pericarps (seeds*, Linn.; *nuts*, Lindl.) numerous, small, tipped with the permanent feathery styles (see figs. 2 & 3). *Seeds* ascending. *Receptacle* (fig. 4.) depressed, dry, downy, minutely cellular. *Flowers* white or yellow.

The 8- or 9-cleft *calyx;* the *corolla* of 8 or 9 petals; and the *pericarps* with long feathery awns; will distinguish this from other genera in the same class and order. The straight awn will distinguish it from *Geum.*

One species British.

DRY'AS OCTOPE'TALA. Eight-petalled Dryas. White Dryas. Mountain Avens.

SPEC. CHAR. Petals, eight. Leaves simple, egg-shaped, or somewhat heart-shaped, crenately serrated.

Engl. Bot. t. 451.—Linn. Sp. Pl. p. 717.—Huds. Fl. Angl. (2nd ed.) p. 226.—Linn. Fl. Lapp. (2nd ed.) p. 181.—Willd. Sp. Pl. v. ii. pt. ii. p. 118.—Sm. Fl. Brit. v. ii. p. 555. Engl. Fl. v. ii. p. 432.—With. (7th ed.) v. iii. p. 638.—Lindl. Syn. p. 99.—Hook. Brit. Fl. p. 254.—Lightf. Fl. Scot. v. i. p. 274.—Hook. Fl. Scot. p. 165.—Winch's Fl. of Northumb. and Durham, p. 35.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 525.—Mack. Catal. of Pl. of Irel. p. 50.; Fl. Hibern. p. 94.—*Dryas chamædrifolia*, Gray's Nat. Arr. v. ii. p. 578.—*Caryophyllata alpina, chamædryos folia*, Ray's Syn. p. 253.—*Teucrium alpinum, cisti flore*, Johnson's Gerarde, p. 659.

LOCALITIES.—On stony alpine heaths, and high mountains, chiefly in a micaceous or limestone soil. Very rare.—*Durham;* Near the Black Ark on Cronkley Fell, Teesdale: N. J. WINCH, Esq.—*Yorkshire;* On Arncliff Clowder, a mountain within half a mile of Arncliff in Littendale; a few miles from Kelnsey: Mr. W. CURTIS, 1782. Near Settle: Dr. FELL. Cronkley Fell at 2000 feet, and descending even to the edge of Darnbrook, near Arncliff: R. BOWMAN, in N. B. G.—SCOTLAND. On the Highland mountains, in many places. On the micaceous mountains in Breadalbane; and on the limestone rocks in Skye.

Fig. 1. Flower, with the petals taken off; *a.* the calyx; *b.* the stamens; *c.* the pistils.—Fig. 2. The Receptacle, and Seeds with their feathery appendages, subtended by the permanent calyx.—Fig. 3. A Seed.—Fig. 4. The Receptacle.

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* So named by LINNÆUS from the dryades or nymphs of the oaks, in consequence of the leaves bearing some resemblance to those of the oak. DON.

† See *Prúnus cérasus*, folio 100, note †.

On a vast limestone tract called Creg-achnocaen, on the confines of Ross-shire and Sunderland: Rev. J. Lightfoot. Upon Carn-dearg, in Glen Creran, and near the top of Malmore, in Glenco, Argyleshire: Dr. Stuart.—Braes of Inver Naver, and common along the coast of Sunderland: W. Borrer, Esq. and Sir W. J. Hooker.—IRELAND. On Burren Mountains, County of Clare, abundant. County of Antrim: Mr. Templeton. Benyevena, County of Derry: Mr. D. Moore. Near Sligo: Withering.

A shrubby Perennial.—Flowers in June and July.

Root strong and woody. *Stems* short, clothed with the remains of the withered leaf-stalks, decumbent, entangled, somewhat shrubby, branched; branches upright, leafy. *Leaves* evergreen, stalked (petiolate), simple, egg-oblong, obtuse, about an inch long, their margins revolute, and strongly, though bluntly serrated; smooth, wrinkled, and of a deep shining green above; white and cottony, with a reddish rib beneath. *Petioles* longer than the leaves, with a pair of long, awl-shaped, hairy *stipulas*, united to the base of each. *Peduncles (flower-stalks)* solitary, downy, the down mixed with purple glands or bristles. *Flowers* large, about an inch in diameter. *Calyx* usually in 8 equal, uniform, cottony and bristly segments, sometimes in 10, very rarely in 6. *Corolla* of as many, somewhat inversely egg-shaped, white petals, as there are segments of the calyx. *Styles* densely feathery and silky, straight, without any joint or curvature, lengthening out, as the flower fades, into long feathery awns to the seeds.

This elegant evergreen plant is a native of the Alps, and other mountainous situations, in many parts of Europe; ornamenting them with its germander-like leaves, white flowers, and feathery heads of seeds.—There are, perhaps, few plants more interesting to the Botanist than those which inhabit these elevated regions; many of them may be ranked among the most lovely productions of the vegetable world, and their elegant forms, brilliant colours, and, often, diminutive size, have not unfrequently attracted the notice, and excited the admiration, of the most casual observer; but how sublime must have been the feelings of Mrs. Sigourney, when, on contemplating the beauty of these "living flowers that skirt the eternal frost," she penned to them the following delightful and animated address.

"Meek dwellers mid yon terror-stricken cliffs!
With brows so pure, and incense-breathing lips,
Whence are ye?—Did some white-winged messenger
On Mercy's missions trust your timid germ
To the cold cradle of eternal snows?
Or, breathing on the callous icicles,
Bid them with tear-drops nurse ye?
——————— Tree nor shrub
Dare that drear atmosphere; no polar pine
Uprears a veteran front; yet there *ye* stand,
Leaning your cheeks against the thick-ribbed ice,
And looking up with brilliant eyes to Him
Who bids you bloom unblanched amid the waste
Of desolation. Man, who, panting, toils
O'er slippery steeps, or, trembling, treads the verge
Of yawning gulfs, o'er which the headlong plunge
Is to eternity, looks shuddering up,
And marks ye in your placid loveliness—
Fearless, yet frail—and, clasping his chill hands,
Blesses your pencilled beauty. 'Mid the pomp
Of mountain summits rushing on the sky,
And chaining the rapt soul in breathless awe,
He bows to bind you drooping to his breast,
Inhales your spirit from the frost-winged gale,
And freer dreams of heaven."

Lotus corniculatus Bird's-foot Trefoil. 4

J.R. Del
Pub.d by W.Baxter Botanic Garden Oxford 1837
C. Mathews Sc

LO'TUS.

Linnean Class and Order. DIADE'LPHIA †, DECA'NDRIA.

Natural Order. LEGUMINO'SÆ, Juss. Gen. Pl. p. 345.—Sm. Gram. of Bot. p. 174.—Lindl. Syn. p. 75.; Introd. to Nat. Syst. of Bot. p. 87.—Rich. by Macgilliv. p. 532.—Sm. Engl. Fl. v. iii. p. 259.—Loud. Hort. Brit. p. 509.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 91.—LEGUMINA'CEÆ, Loud. Arb. Brit. p. 561.—PAPILIONA'CEÆ ‡, *Linn.*—ROSALES; sect. CICERINÆ; subsect. LOTIANÆ; type. LOTACEÆ; subtype, LOTIDÆ; Burn. Outl. of Bot. pp. 614, 638, 642, & 644.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, tubular, with 5 pointed, nearly equal teeth, permanent. *Corolla* (see fig. 2.) of 5 petals, deciduous; standard (fig. 3.) inversely egg-shaped, ascending, with a broad vaulted claw; *wings* (fig. 4.) oblong, blunt, shorter than the standard, converging at their upper edges; *keel* (fig. 5.) of 2 united petals, protuberant underneath, closed above, with an ascending point, and narrow, short, distinct claws. *Filaments* (fig. 6.) 10; 9 united into a compressed tube, split above; the tenth hair-like, distinct, all generally a little dilated under the anthers. *Anthers* small, roundish. *Germen* (see fig. 6.) cylindrical, rather compressed. *Style* straight, awl-shaped. *Stigma* simple. *Legume* (fig. 7.) cylindrical or compressed, wingless, much longer than the calyx, of 2 valves, and 1 cell, the seed separated by a spongy substance. *Seeds* globular.

Distinguished from other genera, in the same class and order, by the diadelphous *stamens;* the 1-celled, many-seeded, cylindrical, straight *legume*, much longer than the calyx; and the *keel* of the corolla as long as the wings.

Four species British.

LO'TUS CORNICULA'TUS. Horned or Common Bird's-foot Trefoil. Butter-jags. Crow-toes. Lady's-fingers.

SPEC. CHAR. Heads depressed, umbellate, of few flowers. Stems decumbent, pithy. Leaflets inversely egg-shaped. Peduncles very long. Claw of the Standard inversely egg-shaped.

Engl. Bot. t. 2090.—Curt. Fl. Lond. t. 107.—Mart. Fl. Rust. t. 53.—Curt. Brit. Entomol. v. vi. t. 259.—Linn. Sp. Pl. p. 1092.—Huds. Fl. Angl. (2nd ed.) p. 329.—Willd. Sp. Pl. v. iii. pt. ii. p. 1395.—Sm. Fl. Brit. v. ii. p. 793.; Engl. Fl. v. iii. p. 312.—With. (7th ed.) v. iii. p. 863.—Gray's Nat. Ar. v. ii. p. 606.—Lindl. Syn. p. 81.—Hook. Brit. Fl. p. 332.—Lightf. Fl. Scot. v. i. p. 411.—Sibth. Fl. Oxon. p. 231.—Abbot's Fl. Bedf. p. 164.—Purt. Midl. Fl. v. i. p. 342.—Relh. Fl. Cant. (3rd ed.) p. 303.—Hook. Fl. Scot. p. 220; *excluding the variety.*—Grev. Fl. Edin. p. 162.—Sinel. Hort. Gram. Wob. p. 309, with a plate.—Fl. Devon. pp. 126 and 177, *excluding the variety.*—Johnston's Fl. of Berw. v. i. p. 164.—Winch's Fl. of Northumb. and Durham, p. 49, excl. var. β.—Walker's Fl. of Oxf. p. 215.—

Fig. 1. Calyx.—Fig. 2. Calyx and Corolla.—Fig. 3. Vexillum, or Standard.—Fig. 4. One of the Wings, or Alæ.—Fig. 5. The Keel, or Carina.—Fig. 6. The Stamens, Germen, Style, and Stigma.—Fig. 7. A Legume, with its two valves separated.—Fig. 8. A Seed.

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* From *Lotos*, Gr. of THEOPHRASTUS and DIOSCORIDES; but the true *Lotos* is *Zizyphus Lotos.* LOTOS was a nymph turned into a tree to avoid the pursuit of PRIAPUS. *Ovid. Metam.* 97, &c. But the name is perhaps of Egyptian origin. DON.

† See folio 77, note †. ‡ See folio 117, note ‡.

Don's Gen. Syst. of Gard. and Bot. v. ii. p. 198.—Bab. Fl. Bath. p. 13, excl. var. β. —Jacob's West Devon. and Cornw. Fl.—Mack. Catal. of Pl. of Irel. p. 67, excl. var. β.; Fl. Hibern. p. 80.—*Lotus gibbus*, Davies' Welsh Bot. p. 71.—*Lotus corniculata glabra minor*, Ray's Syn. p. 334.—*Trifolium siliquosum minus*, Johnson's Gerarde, p. 1190.

LOCALITIES.—In meadows, pastures, and on heaths and road-sides, abundant.

Perennial.—Flowers from June to September.

Root branching, long, somewhat woody, the fibres beset with small granulations. *Stems* numerous, slender, spreading on the ground in every direction, from 3 to 10 inches or a foot long, simple or branched, solid, filled with pith, roundish towards the base, more angular upwards, leafy, either quite smooth or clothed more or less with small close-pressed hairs. *Leaves* ternate, on short, channelled petioles; *leaflets* on very short partial stalks, inversely egg-shaped, entire, pointed, dark green above, glaucous beneath, smooth or clothed with close-pressed hairs; the 2 lateral leaflets oblique. *Stipulas* in pairs, varying in size, sometimes larger and sometimes smaller than the leaflets, obliquely egg-shaped, pointed. *Peduncles (flowerstalks)* axillary, solitary, upright or recumbent, angular, very long, each bearing from 2 to 10 flowers on short *pedicels (partial flowerstalks)*, in a kind of flat umbel, accompanied by a small ternate *bractea*. *Calyx* bell-shaped, its segments the length of the tube, but much shorter than the corolla. *Corolla* bright yellow, often tinged with orange. *Standard* streaked with red at the base in front, and often quite red before expansion; its claw much dilated and vaulted. *Keel* pale yellow. *Filaments* in their separate part all dilated under the anthers. *Legumes* narrow, spreading, nearly cylindrical, about an inch long, of a shining purplish-brown, smooth. *Seeds* kidney-shaped, blackish-green.—The flowers become greenish when dried; in which respect they resemble those of the plants which produce indigo.

This plant has been recommended for cultivation under the erroneous names of *Milk-vetch* and *Astrágalus glycyphy'llus*, by the late Dr. ANDERSON, in his Agricultural Essays, as very excellent for fodder as well as for hay. LINNÆUS says, that cows, goats, and horses eat it, and that sheep and swine are not fond of it. Mr. SINCLAIR tells us that with regard to sheep, as far as his observations have extended, they eat it in common with the herbage with which it is usually combined; the flowers, he observes, appeared always untouched, and that, in dry pastures, little of the plant is seen or presented to cattle, except the flowers, on account of its diminutive growth in such situations. This, however, is nearly the case with white or Dutch clover; sheep seldom touch the flowers while any foliage is to be found.

Lotus corniculatus is best adapted to poor soil, it does not spring early in the season, but continues to vegetate late in the autumn; it attains to a considerable height when growing among shrubs, and seems to lose its prostrate or trailing habit of growth entirely when in such situations.

Some Botanists have considered *Lotus major* a variety of the present species, but the difference between them is obvious at the first sight; and this difference, Mr. SINCLAIR states, remains permanent when the plant is raised from seed and cultivated on different soils. What renders a specific distinction of most importance to the farmer, is the difference which exists between them in an agricultural point of view. The weight of green food, or hay, produced by *L. major* is triple that of *L. corniculatus*, and its nutritive powers are little inferior to it, being as 9 to 8. It does not appear to be eaten by any cattle when in a green state; but when made into hay with common grasses, sheep, oxen, and deer eat it without reluctance.—In moist clayey soils it would doubtless be a most profitable substitute for red clover, but the excess of bitter extractive and saline matters it contains, seems to forbid its adoption without a considerable admixture of other plants. See *Hort. Gram. Wob.*

L. major is larger, more hairy, and of a more upright growth than *L. corniculatus*, and the stem is hollow, and not filled with pith as in that species.

Asarum europæum . *Asarabacca* . 4 .

W. Hooker ad nat. delin. Botanic Garden Glasgow 1827.

A'SARUM*.

Linnean Class and Order. DODECA'NDRIA †, MONOGY'NIA.

Natural Order. ARISTOLO'CHIÆ, Juss. Gen. Pl. p. 72.—Sm. Gr. of Bot. p. 85.—Lindl. Syn. p. 224; Introd. to Nat. Syst. of Bot. p. 72.—Rich. by Macgilliv. p. 418.—ASA'RINÆ, *Link.*—Loud. Hort. Brit. p. 533.—QUERNEALES; sect. ASARINÆ; type, ARISTOLOCHIACEÆ; subtype, ASARIDÆ; Burn. Outl. of Bot. pp. 523, 583, 584, & 585.—SARMENTACEÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) superior, of one leaf, bell-shaped, coriaceous (leather-like), coloured, permanent, in 3 deep, upright segments, with incurved points. *Corolla* none. *Filaments* 12, placed upon the Germen (see fig. 2.), awl-shaped (see fig. 3), half the length of the calyx. *Anthers* (see fig. 3.) attached to the inner side of the filaments, below the summits, each of 2 round, separated cells. *Germen* (see fig. 4.) inferior, turbinate. *Style* (fig. 4) columnar, furrowed, nearly as long as the stamens. *Stigma* (see fig. 4.) in 6 deep, stellated, recurved segments. *Capsule* (see fig. 4.) coriaceous, of 6 cells, not bursting, its outer coat a continuation of the calyx. *Seeds* (figs. 6 & 7.) several in each cell, inversely egg-shaped, with a pale longitudinal crest.

Distinguished from other genera, in the same class and order, by the superior, bell-shaped, 3-lobed *calyx;* and the 6-celled *capsule.*

One species British.

A'SARUM EUROPÆ'UM. Common Asarabacca. Fole's-foot. Hazelwort. Wild Nard.

SPEC. CHAR. Leaves in pairs, kidney-shaped, blunt.

Engl. Bot. t. 1083.—Woodv. Med. Bot. v. ii. p. 237.—Stephenson & Churchill's Med. Bot. v. i. t. 23.—Linn. Sp. Pl. p. 633.—Huds. Fl. Angl. (2nd ed.) p. 205.—Willd. Sp. Pl. v. ii. pt. II. p. 838.—Sm. Fl. Brit. v. ii. p. 509. Engl. Fl. v. ii. p. 342.—With. (7th ed.) v. ii. p. 572.—Gray's Nat. Arr. v. ii. p. 263.—Lindl. Syn. p. 225.—Hook. Brit. Fl. p. 217.—Purt. Midl. Fl. v. i. p. 225.—Hook. Fl. Scot. p. 146.—Thornton's Family Herb. p. 466, with a figure.—Winch's Fl. of Northumb. and Durham, p. 31.—Walker's Fl. of Oxf. p. 131.—*A'sarum*, Ray's Syn. p. 158.—Johnson's Gerarde, p. 836.—Miller's Plates, p. 35. t. 53. f. 1.

LOCALITIES.—In mountainous woods; very rare.—*Berksh.* Between Maidenhead and Henley: Rev. Dr. ABBOT.—*Cumberland;* Ramskin, Martindale, and Keswick: HUTCHINSON. Naturalized about Ormathwaite: N. J. WINCH, Esq. in *New Bot. Guide.*—*Huntingdonshire;* In a wood near Kimbolton: Mr. FERNIE, in *Med. Bot.*—*Lancashire;* In several woods in Lancashire: RAY. Near Preston: Mr. T. HUTTON.—*Northumberland;* At Middleton, near Alnwick: Miss FORSTER. Probably not originally indigenous: N. J. WINCH, Esq.—*Westmoreland;* Near Kirby Lonsdale, where it is gathered out of the woods for medical use: Dr. BATTY.—*Yorkshire;* Plentiful in Broad-bottom Wood, near Mytholmroyd, six miles from Halifax: Mr. ROBERTS LEYLAND. Hebden Bridge, near Halifax: *New Bot. Guide.* Harper-royd Cleugh, near Sowerby Bridge, three miles from Halifax: N. J. WINCH, Esq. in N. B. G. Gildersleets, Gigleswick, and Craven: E. F. WITTS, Esq.—SCOTLAND. West Binny, near Linlithgow: Miss LISTON, in *Fl. Scot.*

Fig. 1. A Flower opened vertically, showing the stamens and pistil.—Fig. 2. Unripe Capsule, crowned with the Stamens and Pistil.—Fig. 3. A separate Stamen.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. A ripe Capsule, after the external skin or epicarp is removed, opened to show the partitions.—Fig. 6. Seeds.—Fig. 7. A Seed, *a little magnified.*

* From *a*, Gr. *not;* and *sairo*, Gr. to *adorn;* because, says PLINY, it was not admitted into the ancient coronal wreaths, (lib. 21. ch. 6.); or more likely as being concealed under its leaves, it does not adorn the earth. THORNTON.

† See folio 15, note †.

Perennial.—Flowers in April and May.

Roots of numerous, stout, branching fibres. *Stems* nearly cylindrical, hairy, creeping progressively on the surface of the ground, and sending out roots from every part. *Leaves* in pairs, at the extremity of the stems, on long, hairy petioles, kidney-shaped, quite entire, shining, dark green above, paler beneath, clothed with a few short bristly hairs, especially on the margin, and along the nerves on the upper surface. *Flowers* solitary, rather large, drooping, on a short peduncle at the summit of the stem, between the two leaves. Before the leaves expand they, and the flowers, are enclosed within two pair of large foliaceous scales or stipulæ, which are finally deciduous. *Calyx* large, bell-shaped, of a fleshy substance, and of a lurid and singular aspect. *Filaments* produced beyond the anthers into a hook or little horn. *Capsule* top-shaped (turbinate), crowned by the permanent calyx, hairy, obscurely 6-angled, not opening by valves, partitions fastened to the angles of the capsule, but loose and separate next the axis (see fig. 5).

This species is a native of many other parts of Europe as well as of England, where it grows in woods and shady places. It is of easy cultivation, but it should be planted in a shady situation. It grows remarkably well in the Oxford Botanic Garden, on a border under a high wall facing the North East.

Asarabacca has been found a good substitute for Ipecacuanha; it is possessed of emetic, purgative, and diuretic powers, and, from its common use in France by drunkards to produce vomiting, it has obtained the name of *Cabaret*. The powder of Asarabacca is an excellent sternutory; it enters into the composition of medicinal snuff, and in cases of inveterate headach, as well as in certain chronic inflammations of the eyelids, its use has afforded very marked relief. The best preparation for this purpose is the *Compound Powder of Asarabacca* of the Edinburgh Pharmacopœia, which consists of the dried leaves of Asarabacca three parts, the leaves of Marjoram and Flowers of Lavender, of each one part, reduced to powder. A few grains of this snuffed up the nose procures a considerable evacuation for a long time, without causing much sneezing or inconvenience to the patient.

The *Natural Order* ARISTOLOCHIÆ is composed of Apetalous dicotyledonous *herbaceous* or *fruteseent*, often twining, plants; with alternate, simple, stalked *leaves*, which are frequently accompanied by leafy *stipulæ*. The *flowers* are hermaphroditc, axillary, and solitary, of a brown or some dull colour. The *calyx* is superior, tubular, with 3 segments, which are valvate in æstivation, sometimes regular, sometimes very unequal. The stamens, which are from 6 to 12 in number, are epigynous, distinct, or adhering to the style and stigmas. The *ovarium* is inferior, 3- or 6-celled; and contains numerous *ovules*, which are horizontally attached to the axis; the *style* (see fig. 4.) is simple; the *stigmas* radiating, and equal in number to the cells of the ovarium. The *fruit* (see fig. 2.) is dry or succulent, 3- or 6-celled, and many-seeded; and the *seeds* have a very minute embryo placed in the base of fleshy albumen. See *Lindl. Syn.*

The only British examples of this natural order are *Aristolochia clematitis*, t. 28, and *Asarum europæum*, t. 250.

Polygala vulgaris Common Milkwort 4

C. Mathews Delt & Sc

Pubd by W Baxter Botanic Garden Oxford 1837

POLY'GALA*.

Linnean Class and Order. DIADE'LPHIA†, OCTA'NDRIA.

Natural Order. POLYGA'LEÆ, *Juss.*—Lindl. Syn. p. 39; Intr. to Nat. Syst. of Bot. p. 144.—Rich. by Macgilliv. p. 494.—Loud. Hort. Brit. p. 501.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 348.—Mack. Fl. Hiber. p. 35.—PEDICULA'RES, Juss. Gen. Pl. p. 99.—Sm. Gram. of Bot. p. 96.—ROSALES; subord. RHŒADOSÆ; sect. RHŒADINÆ; type, POLYGALACEÆ; Burn. Outl. of Bot. pp. 614, 784, 847, & 870,—LOMENTA'CEÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 5 sepals, imbricated in the bud; 3 outer ones small, nearly equal, egg-shaped, pointed, one of them uppermost; 2 inner ones much larger, like a pair of wings, coloured, veiny, egg-shaped, finally converging and fading; all permanent. *Corolla* (fig. 2.) of from 3 to 5 petals, united with the tube of the stamens by their claws; limb of the uppermost deeply divided; lowermost keel-shaped, (perhaps from 2 petals being constantly joined, DON,) generally crowned with more or less of a many-cleft, crested appendage (see fig. 4). *Filaments* (see fig. 3.) all united at the bottom, and attached to the corolla; divided above into 2 sets, of 4 each. *Anthers* (see fig. 3.) 8, ascending, tubular, each of 1 cell, opening at the summit. *Germen* (see fig. 5.) superior, roundish. *Style* (see fig. 5.) club-shaped, straight. *Stigma* (see fig. 5.) of 2 unequal lips, concave. *Capsule* (fig. 6.) elliptical, inversely egg-shaped or inversely heart-shaped, compressed, of 2 valves and 2 cells (see fig. 7.) the partition from the centre of each valve. *Seeds* (f. 8.) downy, crested at the hilum.

The *calyx* of 5 sepals, 2 of them wing-shaped and coloured; the *corolla* of from 3 to 5 petals combined by their claws with the stamens, the lower one keeled; the *capsule* of 2 cells and 2 valves; and the solitary, crested *seeds;* will distinguish this from other genera in the same class and order.

Two species British.

POLY'GALA VULGA'RIS. Common Milkwort. Procession Flower. Rogation Flower. Hedge Hyssop.

SPEC. CHAR. Leaves strap-spear-shaped, bluntish. Stems ascending. Wings of the calyx elliptical, bluntish, a little longer than the capsule, but somewhat equal in length, or shorter than the corolla. Keel crested. Ovary sessile.

Engl. Bot. t. 76.—Curt. Brit. Entomol. v. i. t. 62.—Linn. Sp. Pl. p. 986.—Huds. Fl. Angl. (3rd ed.) p. 310.—Willd. Sp. Pl. v. iii. pt. II. p. 873.—Sm. Fl. Brit. v. ii. p. 752. Engl. Fl. v. iii. p. 258.—With. (7th ed.) v. iii. p. 826.—Gray's Nat. Arr. v. ii. p. 667.—Lindl. Syn. p. 39.—Hook. Brit. Fl. p. 317.—Lightf. Fl. Scot. v. i. p. 381.—Sibth. Fl. Oxon. p. 218.—Abbot's Fl. Bedf. p. 153.—Davies' Welsh Bot. p. 68.—Purt. Midl. Fl. v. i. p. 327; and v. iii. p. 371.—Relh. Fl.

Fig. 1. Bracteas, Pedicel, and Calyx.—Fig. 2. Corolla.—Fig. 3. Tube of the Corolla opened, showing the united filaments.—Fig. 4. The lower Petal or Keel, with the Pistil.—Fig. 5. Germen, Style, and Stigma.—Fig. 6. Capsule.—Fig. 7. Transverse section of ditto.—Fig. 8. A Seed.—*All*, except figs. 1 & 2, *more or less magnified.*

* From *poly*, Gr. *much;* and *gala*, Gr. *milk;* alluding to the reputed effects of the plant on cattle that feed upon it. DON. † See folio 77, note †.

Cant. (3rd ed.) p. 287.—Hook. Fl. Scot. p. 211.—Grev. Fl. Edin. p. 154.—Fl. Devon. pp. 119 & 187.—Johnst. Fl. of Berw. v. i. p. 157.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 352.—Walker's Fl. of Oxf. p. 203.—Jacob's West Devon and Cornw. Fl.—Perry's Pl. Varv. Selectæ, p. 60.—Pamplin's Pl. of Battersea and Clapham, p. 13.—Bab. Fl. Bath. p. 7.—Mack. Catal. of Pl. of Irel p 65; Fl. Hibern. p. 35.—*Polygala*, Ray's Syn. p. *287.—John. Ger. pp. 563 & 564.

Localities.—On gravelly and heathy pastures, and in woods; common.

Perennial.—Flowers in June and July.

Root woody, tough, fibrous. *Stems* from 3 to 8 inches long, procumbent, or ascending, sometimes nearly upright when growing among taller plants or under bushes; simple, angular, leafy. *Leaves* numerous, scattered, nearly sessile, strap-spear-shaped, dark green, those near the root shortest, broadest, and most crowded. *Flowers* in a simple, terminal *raceme (cluster)*, usually of a fine blue, but frequently pink, white, or purple; and always marked with green lines. *Bracteas* three at the base of each pedicel, egg-shaped, concave, membranaceous, slightly coloured, deciduous. *Calyx* (fig. 1.) permanent, of 5 sepals, the 2 innermost coloured, much the largest, at length turning green, and protecting the ripening fruit. *Corolla* (fig. 2.) of 3 petals, closely united at the base, so as to resemble one deeply 3-cleft, the two upper petals entire, one of them somewhat overlapping the other, their points generally a little inflexed; lower one keeled, tubular below, the apex expanding into two sets of club-shaped glandular appendages (see fig. 4). *Filaments* (fig. 3.) all united at the base, divided above into 2 sets of 4 each. *Anthers* yellow or orange. *Style* (see fig. 5.) thicker upwards. *Stigma* 2-lobed, one a fleshy knob, the other spear-shaped, concave. *Capsule* (figs. 6 & 7.) bordered.

This pretty plant is a native of gravelly heathy pastures and woods throughout Europe; it retains its leaves through the Winter. Hermits who inhabited elevated places, formerly planted it round their habitations. Linnæus found it to possess the same properties as the Senega Rattle-snake Root *(Poly'gala Sénega)*, but in an inferior degree. Duhamel used it in pleuritic cases with success; the powdered root may be given in doses of half a drachm. An infusion of the herb, which is very bitter, taken in the morning fasting, about a quarter of a pint daily, promotes expectoration, and is good for catarrhous coughs. Foreigners celebrate it as a grateful and nutritious food for cattle. Cows, goats, and sheep are said to eat it; swine to refuse it.

Poly'gala amára, the other British species, is distinguished from *vulgaris* by "the size and form of its lower leaves, which, as well as those of the barren shoots, are broadly obovate, blunt, sometimes spathulate and slightly emarginate, varying from half an inch to an inch in length." *Engl. Bot. Supp.* t. 2764.—217 species of *Polygala* are described in Mr. Don's *Gen. Syst. of Gard. & Bot.*

The *Natural Order* Polygaleæ, is composed of dicotyledonous *herbs* and *shrubs*, with mostly alternate, entire *leaves*, and racemose *flowers*. The *calyx* (see fig. 1.) is composed of 5 sepals, which are imbricated in the bud, the 2 inner ones usually petal-like and coloured; the 3 outer ones smaller; of these last two are connected. The *corolla* (fig. 2.) is formed of from 3 to 5 petals, which are inferior, and more or less connected by means of the staminal tube. The *filaments* (see fig. 3.) are united with the petals, and are combined at the base into one set, which divides at top into 2 equal portions, containing 4 anthers each. The *anthers* are 1-celled, and open by a pore at the top. The *ovary* (see f. 5.) is single, distinct, and 2-celled, rarely 1- or 3-celled; the *style* siogle and incurved; and the *stigma* funnel-shaped or 2-lobed. The *fruit* is capsular or drupaceous, of 1 or 2 cells, the valves bearing the dissepiment in the middle. The *seeds* are solitary in each cell, pendulous, and generally accompanied by a kind of caruncle or arillus at the base, sometimes hairy or comose. The *embryo* is straight, in the axis of a fleshy *albumen*, the latter is sometimes wanting, in which case the inner coating of the testa is tumid. See *Lindl. Syn.*

Catabrósa aquática. Water Whorl-grass. 4

C. Mathews Del. & Sc. Pub.d by W. Baxter Botanic Garden Oxford 1837

CATABRO'SA *.

Linnean Class and Order. TRIA'NDRIA †, DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 86.; Engl. Fl. v. i. p. 71.—Lindl. Syn. p. 293.; Introd. to Nat. Syst. of Bot. p. 292.—Rich. by Macgilliv. p. 393.—Loud. Hort. Brit. p. 542.—GRAMINA, *Linn.*—GRAMINALES; sect. FESTUCINÆ; type, AVENACEÆ, Burn. Outl. of Bot. v. i. pp. 359 and 369.

GEN. CHAR. *Panicle* loose, spreading. *Spikelets* (fig. 1.) 2-flowered. *Calyx* (fig. 2.) of 2, truncate (very blunt), unequal, membranaceous *glumes (valves)*, much shorter than the florets (see fig. 1.). *Corolla* (see fig. 3.) of 2, nearly equal, ribbed, truncated, awnless, coriaceous *paleæ (valves)*, membranous only at the extremity; the upper free from the lower. *Filaments* (see fig. 3.) 3, hair-like. *Anthers* prominent, pendulous, notched at each end. *Germen* (see fig. 4.) egg-shaped. *Styles* (see fig. 4.) short, distinct. *Stigmas* (see fig. 4.) feathery, large. *Seed* (fig. 5.) egg-shaped, loose, covered with the membranous corolla.

The 2-flowered *spikelets;* the *calyx* of 2 truncated, unequal *glumes*, much shorter than the florets; and the *corolla* of 2, very blunt, nearly equal *paleæ;* will distinguish this from other genera, with a loose spreading panicle, in the same class and order.

One species British.

CATABRO'SA AQUA'TICA. Water Sweet-grass. Water Whorl-grass.

SPEC. CHAR. Panicle with whorled patent branches, leaves broadly strap-shaped, blunt.

Lindl. Syn. p. 306.—Hook. Brit. Fl. p. 34.—Bab. Fl. Bath. p. 59.—Mack. Fl. Hibern. p. 299.—*Catabrosia aquatica*, Gray's Nat. Arr. v. ii. p. 133.—*Aira aquatica*, Engl. Bot. t. 1557.—Curt. Fl. Lond. t. .—Knapp's Gram. Brit. t. 29.—Host. Gram. Austr. v. ii. p. 30. t. 41.—Graves' Brit. Grasses, t. 40.—Linn. Sp. Pl. p. 95.—Huds. Fl. Angl. (2nd ed.) p. 33.—Willd. Sp. Pl. v. i. pt. 1. p. 376.—Sm. Fl. Brit. v. i. p. 84. Engl. Fl. v. i. p. 101.—With. (7th ed.) v. ii. p. 160.—Lightf. Fl. Scot. v. i. p. 94.—Sibth. Fl. Oxon. p. 38.—Abbot's Fl. Bedf. p. 15.—Davies' Welsh Bot. p. 9.—Purt. Midl. Fl. v. i. p. 74.—Relh. Fl. Cant. (3rd edit.) p. 31.—Sinel. Hort. Gram. Wob. p. 351.—Hook. Fl. Scot. p. 29.—Grev. Fl. Edin. p. 19.—Johnston's Fl. of Berw. v. i. p. 20.—Winch's Fl. of Northumb. and Durham, p. 5.—Walker's Fl. of Oxf. p. 19.—Perry's Pl. Varv. Selectæ, p. 8.—Mack. Catal. of Pl. of Ireland, p. 12.—*Poa dulcis*, Salisb. Prod. p. 20.—*Gramen miliaceum aquaticum*, Ray's Syn. p. 402.

LOCALITIES.—In wet ditches, and on the margins of pools, rivers, &c.; not uncommon.

Perennial.—Flowers in May, June, and July.

Fig. 1. A Spikelet.—Fig. 2. The two Glumes of the Calyx.—Fig. 3. The two Florets taken out of the Calyx.—Fig. 4. The Germen and Pistils.—Fig. 5. A Seed.—*All*, except fig. 5, *more or less magnified.*

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* From *katabrosis*, Gr. *a gnawing;* from the erose extremity of the glumes. HOOKER. † See folio 56, note †.

‡ From the sweet taste of the young shoots. The flowers also have a sweet taste if drawn through the mouth; whence this grass has acquired the name of *dulce.*

Root creeping, and producing from its joints many long, white, shining fibres. *Culms (stems)*, if growing in water, partly floating, if not, prostrate towards the base, rooting at the joints, the rest ascending, from 1 to 2 feet or more long, branched, very leafy, round, hollow, smooth, tender. *Leaves* strap-shaped, nearly flat, bluntish, flaccid, often floating, bright green, smooth, except at the margins. *Sheaths* lax, slightly compressed, smooth, with a prominent, broad, rather pointed, membranous *stipula (ligula)*. *Panicle* 4 or 5 inches long, and 2 or 3 inches broad when expanded, upright, smooth, branched; branches spreading, unequal, aggregate, angular, beginning to flower before the lower part is quite emerged from the sheath of the uppermost leaf. *Spikelets* (see fig. 1.) oblong, reddish-brown, generally containing two florets. *Glumes (calyx-valves)* (fig. 2.) small, unequal, abrupt, notched, ribbed at the lower part, purplish, smooth. *Florets* (see fig. 3.) much longer than the glumes, one sessile, the other on a short stalk; their *paleæ (valves)* oblong, concave, brownish, with green ribs, diaphanous at the point. *Filaments* hair-like, as long as the corolla. *Anthers* prominent, oblong, yellow.—The flowers are said to abound with honey.

A variety of this, not more than from 3 to 5 inches high, has been found near Liverpool, and at Parkgate, Cheshire. "This diminutive habit is occasioned by the plant being deprived of its requisite supply of water, when growing on dry land." *Withering.*

Mr. GRAVES says, the *Catabrosa aquatica* is the sweetest of all the British Grasses; but from Mr. SINCLAIR'S experiments it appears that there are several species of grass which contain more sugar, in proportion to the other ingredients which compose their nutritious matter, as the *Glyceria fluitans*, *Elymus arenarius*, *Poa nemoralis angustifolia*, and *Poa aquatica*. Cattle are very fond of it, and from its great sweetness it is sought out by them in the Summer months, in preference to almost every other kind; but as it is an aquatic species, and, with respect to its uses in rural œconomy, very far inferior to the *Flote Meadow-grass (Glyceria fluitans)*, it is, consequently, not worth cultivating for fodder.—Water-fowl are very fond of the young sweet shoots, and also of the seeds; and Mr. SALISBURY thinks it might be introduced into decoys and other places with good effect. Pulling up the plants, and throwing them into the water with a weight tied to them, he says, is the best mode of introducing it. The seeds will not vegetate unless they are kept very moist.

"When life
Hath half become a weariness, and hope
Thirsts for serener waters, go abroad
Upon the paths of Nature, and, when all
Its voices whisper, and its silent things
Are breathing the deep beauty of the world,
Kneel at its simple altar, and the God
Who hath the living waters shall be there!"

N. P. WILLIS.

Claytonia alsinoides. Chickweed-like Claytonia. ☉

I. Fussell del. Pub.d by W. Baxter Botanic Garden Oxford 1837. C. Mathews Sc.

CLAYTO'NIA*.

Linnean Class and Order. PENTA'NDRIA†, MONOGY'NIA.

Natural Order. PORTULA'CEÆ‡, Juss. Gen. Pl. p. 312.—Sm. Gram. of Bot. p. 164.—Lindl. Syn. p. 62.; Introd. to Nat. Syst. of Bot. p. 159.—Rich. by Macgilliv. p. 510.—Loud. Hort. Brit. p. 516.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 71.—Mack. Fl. Hibern. p. 59.—ROSALES; section, CRASSULINÆ; type, PORTULACEÆ; Burn. Outl. of Bot. pp. 614, 730, & 739.—SUCCULENTÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 2.) inferior, of 2 oval, opposite, permanent sepals. *Corolla* (see fig. 1.) of 5, inversely heart-shaped, or inversely egg-shaped, inferior, equal, clawed petals; their claws slightly connected at the base. *Filaments* (see figs. 1 & 3.) 5, awl-shaped, inserted on the claws of the petals. *Anthers* oblong, incumbent. *Germen* (see fig. 4.) sessile. *Style* (see fig. 4.) thread-shaped, simple, about as long as the stamens. *Stigma* (see fig. 4.) 3-cleft, downy inside. *Capsule* (see figs. 5, 6, & 7.) roundish, of 1 cell, and 3 elastic valves. *Seeds* (see figs. 7 & 8.) 3, sessile.—*Herbs* smooth, rather succulent, usually perennial. *Leaves* quite entire; radical ones petiolate; upper usually opposite and sessile, and sometimes connate. *Racemes* terminal. *Flowers* white or rose-coloured.

The *calyx* of 2 sepals; the *corolla* of 5 petals, bearing the stamens on their claws; the 3-cleft *stigma;* and the superior, 1-celled, 3-valved, 3-seeded *capsule;* will distinguish this from other genera in the same class and order.

One species British.

CLAYTO'NIA ALSINOI'DES. Chickweed-like Claytonia.

SPEC. CHAR. Root fibrous. Upper Leaves opposite, sessile, egg-shaped, mucronate; radical ones petiolate, egg-shaped, pointed; all reticulately veined. Pedicels of the raceme for the most part solitary. Petals bifid.

Curt. Bot. Mag. t. 1309.—Pursh. Fl. Amer. Septent. v. i. p. 176.—Sprengel's Systema Vegetabilium, v. i. p. 790.—Loudon's Encyclopædia of Plants, pp. 184 & 185. f. 3014.—De Cand. Prod. Syst. Nat. Reg. Veget. v. iii. p. 360.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 81.—*Limnia alsinoides*, Haworth's Syn. Pl. Succul. p. 12. *fide* DE CANDOLLE.

LOCALITIES.—In moist shady woods; very rare.—*Derbyshire;* "In an elevated part of a large plantation bordering Chatsworth Park, unquestionably wild; of this I feel quite satisfied, as its situation is such as not to offer any probability of either seeds or plants being conveyed there by any other means than by nature:" Mr. JOSEPH PAXTON, September 8, 1837.

Annual or Biennial.—Flowers from April to October.

Root fibrous. *Stem* from 6 to 10 inches or a foot high, round, smooth, and shining. *Leaves* somewhat fleshy, quite entire,

Fig. 1. A separate Flower.—Fig. 2. The Calyx.—Fig. 3. A Stamen.—Fig. 4. The Pistil.—Fig. 5. Calyx and Capsule.—Fig. 6. A Capsule, without the Calyx.—Fig. 7. A Capsule after the valves have opened.—Fig. 8. A Seed, *a little magnified.*

* So named in honour of JOHN CLAYTON, who collected plants, mostly in Virginia, and sent them to GRONOVIUS, who published them in his Flora Virginica. DON.

† See folio 48, note †. ‡ See folio 196, a.

reticulately veined, smooth, of a dark glossy green above, rather paler beneath; *those* from the root egg-shaped, or somewhat rhomboid (diamond-shaped), pointed, on long channelled footstalks, which, as well as the stems, are often reddish at the base. *Stem-leaves* seldom more than one pair, these are broadly egg-shaped with a short point, usually opposite, sometimes alternate, sessile, but not connate, and situated immediately below the racemes. One of the specimens sent me by Mr. PAXTON has 4 leaves on the stem, not exactly opposite each other in pairs, but so near together as to appear like a whorl of 4 leaves; in the axils of these leaves are produced, together with the stalks of the racemes, several small leaves of a rhomboid shape, and on long footstalks, like those from the root; thus the plant appears to have a tendency to become viviparous. *Racemes* from 1 to 3, at the summit of the stem, simple, or sometimes slightly branched. *Flowers* on long pedicels, from 1 to 3 together, usually somewhat unilateral (leaning all one way), and more or less nodding both before and after flowering; each pedicel accompanied by a leaf-like bractea at its base, the lower ones egg-shaped, upper ones smaller, narrower, and more or less strap-shaped. *Calyx* (see fig. 2.) small, of 2, broadly egg-shaped, opposite sepals, each with a very blunt, somewhat tumid base. *Corolla* (fig. 1.) white, of 5 petals, which are slightly united at the base, their summits deeply notched. *Filaments* inserted into the base of the petals, and about half as long. *Anthers* red.

For an opportunity of introducing this elegant and curious little plant into my work, as a native of Britain, I am indebted to the kindness of Mr. JOSEPH PAXTON, F. L. S. &c. Gardener to His Grace the DUKE of DEVONSHIRE, at Chatsworth, who discovered it in an apparently wild state near Chatsworth, as stated above.

We should be cautious in introducing into the Flora of Britain plants which may probably have been originally the outcasts from gardens; but I think the present one has as good a claim to be considered as having become naturalized in this country, as some others which have been published as natives. In a letter which I received from Mr. PAXTON, dated the 10th instant, (Oct. 1837,) he says, "I have this morning gathered specimens of *Claytonia* from the very places in which I originally found it, and I am more firmly than ever convinced of its being natural to the situation; in short, I feel fully persuaded, that if you were to see it you would at once concur with me in considering it so. I find it occurs in patches for the space of two or three hundred yards, from North to South, across a thick wood, springing up amongst the underwood, sometimes quite thick, at other times less plentifully. The ground, where it grows, gradually slopes to the North, and is, throughout the whole year, very wet, in consequence of the density of the underwood, and great quantity of *Fern*, which is growing in such abundance as constantly to exclude the beams of the sun. I pulled up two or three plants, and found the roots were running in the decayed and decaying leaves quite free; still the strongest were perhaps to be found in the soil, which is a yellow loam, rendered stiff and heavy by constant moisture. It has been in flower ever since last April, and is now quite fresh, although not so fine as it was earlier in the season."—Mr. PAXTON observes, that he has not seen it in any other part of Chatsworth, neither has he met with it in any garden in the neighbourhood. This species of *Claytonia* is a native of the North-west coast of America, at the sources of the Columbia; it is particularly plentiful about Indian villages, where it seems to hold the place of Chickweed in our country. It was first cultivated in England in 1794.

The Drawing for the accompanying plate was made from a specimen obligingly communicated to me by Mr. PAXTON, from its locality at Chatsworth, September 8, 1837.

Thalictrum flavum. Common Meadow-rue. 4

C. Wathen. Del. & Sc. Pub.d by W.m Baxter Botanic Garden Oxford 1837

THALI'CTRUM*.

Linnean Class and Order. POLYA'NDRIA†, POLYGY'NIA.

Natural Order. RANUNCULA'CEÆ‡, Juss. Gen. Pl. p. 231.—Sm. Gram. of Bot. p. 136.—Lindl. Syn. p. 7.; Introd. to Nat. Syst. of Bot. p. 6.—Rich. by Macgilliv. p. 465.—Loud. Hort. Brit. p. 495; Mag. Nat. Hist. v. i. p. 137.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 2.—Mack. Fl. Hibern. p. 4.—ROSALES; sect. RANUNCULINÆ; type, RANUNCULACEÆ; subtype, ANEMONEÆ; Burn. Outl. of Bot. v. ii. pp. 614, 828, 837, & 838.—MULTISILIQUÆ, *Linn.*

GEN. CHAR. *Calyx (corolla* of Sm.*)* (fig. 1.) inferior, of 4 or 5 roundish, obtuse, concave sepals, imbricated in the bud, very deciduous. *Corolla* none. *Filaments* (see fig. 2.) numerous, hair-like, somewhat thickened at the upper part, various in length. *Anthers* terminal, oblong, drooping, bursting at the edges. *Germens* (see fig. 3) several, superior, egg-shaped, striated. *Styles* none. *Stigmas* oblique, egg-shaped, tumid, downy. *Seeds* (figs. 5 & 6.) as many as the germens, egg-shaped, furrowed, or winged, without any terminal appendage. *Embryo* very minute, with converging cotyledons.

Distinguished from other genera, in the same class and order, by the *calyx* of 4 or 5 sepals; the absence of a *corolla;* and by the *seeds* being destitute of a terminal awn or appendage.

Four species British.

THALI'CTRUM FLA'VUM. Yellow-rooted Meadow-Rue. Feather-Columbine.

SPEC. CHAR. Stem upright, branched, furrowed, leafy. Root fibrous. Leaves bipinnate; leaflets wedge-shaped, trifid, acute. Panicle compact, somewhat corymbose. Flowers upright.

Engl. Bot. t. 367.—Curt. Brit. Entomol. v. viii. t. 376.—Linn. Sp. Pl. p. 770.—Huds. Fl. Angl. (2nd ed.) p. 239.—Willd. Sp. Pl. v. ii. pt ii. p. 1300.—Sm. Fl. Brit. v. ii. p. 585. Engl. Fl. v. iii. p. 42.—With. (7th ed.) v. iii. p. 674.—Gray's Nat. Arr. v. ii. p. 727.—Lindl. Syn. p. 9.—Hook. Brit. Fl. p. 263.—Lighf. Fl. Scot. v. i. p. 285.—Sibth. Fl. Oxon. p. 171.—Abbot's Fl. Bedf. p. 120.—Davies' Welsh Bot. p. 54.—Purt. Midl. Fl. v. i. p. 267.—Relh. Fl. Cant. (3rd ed t.) p. 220.—Hook. Fl. Scot. p. 172.—Fl. Devon. pp. 92 & 193.—Johnst. Fl. of Berw. v. i. p. 121.—Winch's Fl. of Northumb and Durh. p. 37.—Don's Gen. Syst. of Gard. and Bot. p. 14.—Walker's Fl. of Oxf. p. 153.—Perry's Pl. Varv. Selectæ, p. 46.—Pamplin's Pl. of Battersea and Clapham, p. 10.—Bab. Fl. Bath. p. 1.—Mack. Catal. of Pl. of Irel. p. 53.; Fl. Hibern. p. 5.—*Thalictrum pratense*, Linn. Fl. Lapp. (2nd ed.) p. 189.—*Thalictrum nigricans*, Jacq. Fl. Austr. t. 421.—*Thalictrum seu Thalictrum majus*, Ray's Syn. p. 208; but not of Gerarde, *fide* SMITH.

LOCALITIES.—In wet meadows, and about the banks of rivers and ditches.—Not uncommon in ENGLAND; more rare in SCOTLAND and IRELAND.

Perennial.—Flowers in June and July.

Fig. 1. Calyx.—Fig. 2. A single Flower, with its Calyx, Stamens, and Pistils.—Fig. 3. The Pistils.—Fig. 4. A single Pistil, consisting of a German and Stigma only, without any Style.—Figs. 5 & 6. Seeds.—Fig. 7. Transverse section of a Seed.—Figs. 4, 6, and 7, *a little magnified.*

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* From *thallo*, Gr. *to grow green;* from the bright colour of the young shoots. DON.

† See folio 13, note †. ‡ See folio 129, *a.*

Root fibrous, yellow. *Stem* 3 or 4 feet high, upright, straight branched, hollow, deeply furrowed, smooth, leafy. *Leaves* alternate, doubly pinnate, ultimately ternate, with general and partial membranous, rounded *stipulas*. *Leaflets* somewhat wedge-shaped, usually 3-cleft, but sometimes undivided, entire, varying much in breadth and sharpness, veiny; deep green and shining above; paler beneath. Sometimes the upper leaflets are strap-shaped, when it is the *T. nigricans* of JACQUIN. *Panicle* very much branched, upright, somewhat corymbose; flowers very numerous. *Calyx* (fig. 1.) of 4, cream-coloured, deciduous, sepals. *Stamens* many, hair-like, several times longer than the sepals. *Anthers* upright, yellow. *Germens* (figs. 3 & 4.) several, sessile, deeply furrowed. *Styles* none. *Stigmas* (see figs. 3 & 4.) short, oblique, heart-shaped, downy. *Seeds* (see figs. 5 & 6.) deeply furrowed, hairy.

The root of this species has been used to dye wool of a yellow colour, and is said to have been serviceable, when taken in small doses, in removing the jaundice. Cattle will eat it when mixed with grass, but it is too acrid to be eaten alone.

Some of the exotic species of this genus, of which Mr. G. DON describes 53, are very ornamental, and a few of them are cultivated in the flower-garden, under the name of *Feather Columbine*, especially 2 or 3 varieties of *Thalictrum aquilegifolium*. They are mostly hardy perennial herbaceous free growing plants, and are easily increased by dividing the roots.

" The heart's affections—are they not like flowers?
In life's first spring they blossom; summer comes
And 'neath the scorching blaze they droop apace;
Autumn revives them not: in languid groups
They linger still, perchance, by grove or stream,
But Winter frowns and gives them to the winds;
They are all withered!

Death!
Cold, blank, remorseless, and mysterious death,
Why dost thou fall so gently on the weed—
Leaving it beauty even in decay,—
Beauty and fragrance,—whilst to man thy touch
Is as the touch of stern annihilation?
Love, genius, virtue, lost in rottenness!
It is most strange!

The unfathomable heart of man!
Why with a withered weed should there be linked
A thousand gentle feelings and emotions,
That break around the soul like rippling waves
Upon a summer shore? Yet all will die!
A few brief years,—and will not this full heart
Be but a withered weed!

Perchance 'tis very childishness that weaves
Fancies with flowers, and borrows from their hue,
A colour for our thoughts;—but if it be,
It is weakness that will win a smile,
Not tempt a frown from sage philosophy;
Or if he frown, in sooth, he's not the sage
Men take him for—I would not give the love
My heart can feel for this frail harmless thing
Of green and gold, to be enshrined in all
The dusty grandeur of his worm-eat lore."

H. G. BELL.

Salsola kali. Prickly Saltwort ⊙

J. Ry. Sculpt. Ld. Publd by W. Baxter Botanic Garden Oxford 1837 C. Mathews Sc.

SA'LSOLA*.

Linnean Class and Order. PENTA'NDRIA†, DIGY'NIA.

Natural Order. CHENOPO'DEÆ‡, *Vent.*—Lindl. Syn. p. 213; Introd. to Nat. Syst. of Bot. p. 167.—Loud. Hort. Brit. p. 531.—Mack. Fl. Hibern. p. 226.—ATRIPLICES, Juss. Gen. Pl. p. 83.—Sm. Gr. of Bot. p. 91.—Rich. by Macgill. p. 425.—QUERNEALES; sect. RUMICINÆ; type, BETACEÆ; subty. CHENOPODIDÆ; Burn. Outl. of Bot. v. ii. pp. 523, 587, & 591.—HOLERA'CEÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 2.) inferior, of 1 sepal, permanent, deeply divided into 5 egg-shaped segments, which, after flowering, produce from their back a scarious appendage (see figs. 5, 6, & 7). *Corolla* none. *Filaments* (see fig. 3.) 5, awl-shaped, opposite to the segments of the calyx, and about as long. *Anthers* roundish, 2-lobed. *Germen* (fig. 4.) superior, globular. *Styles* (fig. 4.) 2 or 3, combined at the base. *Stigmas* recurved. *Capsule* (see fig. 5—7.) of 1 cell, horny, not bursting, imbedded in the fleshy base of the calyx, and crowned with its broad scarious limb. *Seed* (figs. 10 & 11.) solitary, top-shaped, large, with a spiral, horizontal, very large *embryo.*

The 5-cleft, inferior, permanent *calyx*, enveloping the indehiscent *capsule* with its base, and crowning it with its broad scarious limb; and the solitary *seed*, with its spiral embryo; will distinguish this from other genera in the same class and order.

One species British.

SA'LSOLA KALI. Prickly Saltwort. Prickly Glasswort. Bastard Sea-grape.

SPEC. CHAR. Stems herbaceous, prostrate. Leaves awl-shaped, spinous-pointed, rough. Segments of the Calyx with a dilated scariose margin.

Engl. Bot. t. 634.—Hook. Fl. Lond. t. 158.—Woodv. Med. Bot. v. iii. p. 386. t. 143.—Curt. Brit. Entomol. v. x. t. 442.—Linn. Sp. Pl. p. 322.—Huds. Fl. Angl. (2nd ed.) p. 107.—Willd. Sp. Pl. v. i. pt. II. p. 1310.—Sm. Fl. Brit. v. i. p. 280.; Engl. Fl. v. ii. p. 18.—With. (7th ed.) v. ii. p. 352.—Lindl. Syn. p. 214.—Hook. Brit. Fl. p. 139.—Lightf. Fl. Scot. v. i. p. 151.—Annals of Bot. v. ii. p. 415.—Thornton's Fam. Herb. p. 249, with a figure.—Davies' Welsh Bot. p. 26.—Hook. Fl. Scot. p. 85.—Grev. Fl. Edin. p. 59,—Fl. Devon. pp. 45 & 140.—Johnston's Fl. of Berwick, v. i. p. 66.—Winch's Fl. of Northumb. and Durham, p. 17.—Mack. Catal. of Pl. of Irel. p. 26.; Fl. Hibern. p. 226.—*Salsola decumbens*, Gray's Nat. Arr. v. ii. p. 288.—*Kali spinosum cockleatum*, Ray's Syn. p. 159.—Blackstone's Spec. Bot. p. 41.

Fig. 1. A Flower, accompanied by its 3 leaf-like braeteas.—Fig. 2. A Flower without the braeteas.—Fig. 3. Stamens and Pistils.—Fig. 4. Germen, Styles, and Stigmas.—Figs. 5 & 6. Capsule enveloped by the permanent calyx.—Fig. 7. Vertical section of ditto.—Figs. 8 & 9. The Capsule divested of the calyx.—Figs. 10 & 11. The Seed.—Fig. 12. The Spiral Cotyledons.—Figs. 3, 4, 6, 7, 8, 9, 11, & 12, *more or less magnified.*

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* From *sal, salt;* alluding to the saline nature of the plant. WITHERING.

† See fol. 48, note †. ‡ See folio 231, *a.*

Localities.—Sandy sea shores; frequent.—*Cornwall;* On the sea shore: Mr. H. C. Watson, in N. B. G.—*Devonshire;* Frequent on the coast: Fl. Devon. On the shore near Barnstaple: Mr. H. C. Watson, in N. B. G.—*Durham;* On the sandy sea beach, common: N. J. Winch, Esq.—*Essex;* At Walton: J. G. in Loud. Mag. of Nat. Hist. v. iv. p. 446.—*Kent;* In South Kent: Rev. G. E. Smith. On the shore between Graveney and Seasalter, near Faversham, not common: E. Jacob, Esq. 1777.—*Lancashire;* Southport; and on the banks of the Mersey near Liverpool: G. Crosfield, Esq. Bootle: Mr. H. C. Watson, in N. B. G.—*Norfolk;* Near Yarmouth, 1837: Dawson Turner, Esq.—*Northumberland;* Common on the sandy sea beach: N. J. Winch, Esq.—In *Somersetshire:* Dr. Gapper, (now Southby,) in N. B. G.—*Yorkshire;* N. Sands, Scarborough: Rev. A. Bloxam, and E. F. Witts, Esq.—WALES. *Anglesey;* In drifted sand, not rare: Rev. H. Davies.—*Denbighshire;* North coast: J. E. Bowman, Esq. in N. B. G.—*Merionethshire;* Barmouth: Magaz. Nat. Hist.—SCOTLAND. Sandy sea shores, frequent: Sir J. W. Hooker.—IRELAND. Sea shores, frequent: Mr. Mackay.—On the coast of Waterford, near Coolum, 1837: Countess of Carrick. Near the Black Rock, about four miles S. E. from Dublin: *Scientific Tourist through Ireland.* On the sea shore at the bottom of Ballyheigh Bay, *C. of Kerry:* ibid.

Annual.—Flowers in July and August.

Root tapering, fibrous. *Stems* angular, decumbent, from 6 inches, to a foot or more long, much branched, rigid, and clothed with whitish, awl-shaped, bristly hairs. *Leaves* alternate, fleshy, awl-shaped, spreading, channelled, a little dilated and membranous at the base, clothed more or less with short bristly hairs, and terminated with a very sharp spine. *Flowers* axillary, solitary, sessile, each with 3, leaf-like, spinous pointed bracteas at the base (see fig. 1). *Calyx* (fig. 2.) yellowish-white, membranous, with 5 segments, each of which is furnished with a small tooth-like process externally at its base, which becomes dilated, and the tips of the segments closely converging cover the capsule (see figs. 5 & 6). *Capsule* (figs. 7 & 8.) turbinate or top-shaped, winged (see figs. 6 & 7.) with the permanent rigid calyx. *Seed* solitary, its cotyledons curiously twisted into a spiral form (see figs. 11 & 12), by which character this genus is distinguished from that of *Chenopodium.*

Salsola Kali, together with a few other plants of a similar nature, which are common on the shores of most parts of the world, are of much economical importance on account of the soda they afford, and which constitutes a material ingredient in the manufacture of soap and glass. In the south of France, and on the Mediterranean shores of Spain, especially in the huerta of Murcia, the *Salsolæ,* (especially *Salsola soda*) are extensively cultivated, and when burned, their ashes form the *barilla* of commerce, as the ashes of sea-weeds form *kelp.* To obtain the fossil alkali, the plants are well dried and placed in a deep trench upon cross bars, beneath which a fire is lighted, when they are violently agitated, and on cooling settle into solid masses. We are informed by Professor Burnett, (in his very interesting and useful work, the "Outlines of Botany, v. ii. p. 592,) that during the war, when the demand for soda was great, and the gains on its production large, the growers extended their Salsola fields inland, but found, to their disappointment, that although, as long as the land sloped upwards from the sea, the Salsolæ were rich in soda; yet, as soon as they began to slope inland, the plants ceased to produce soda, and only furnished potash. It appears, therefore, to be essential for the elaboration of alkali that they should be subject to the influence of the sea winds impregnated with saline vapours, and bearing to them particles of salt.

The Drawing for the accompanying plate was made from a specimen which was kindly communicated to me by the Countess of Carrick, from the vicinity of Waterford, Ireland.—I am also indebted to Dawson Turner, Esq. F. L. S. &c. for specimens from the neighbourhood of Yarmouth, Norfolk.

Sálsola fruticósa of E. B. t. 635, is *Chenopódium fruticósum* of Lindley and Hooker.

Lagúrus ovátus. *Hare's-tail grass.* ⊙

C. Mathews Del & Sc

Pub.d by W. Baxter, Botanic Garden, Oxford.

LAGU'RUS*.

Linnean Class and Order. TRIA'NDRIA †, DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 86. Engl. Fl. v. i. p. 71.—Lindl. Syn. p. 293.; Introd. to Nat. Syst. of Bot. p. 292.—Loud. Hort. Brit. p. 542.—Mack. Fl. Hibern. p. 294.—GRAMINA, *Linn.*—Rich. by Macgilliv. p. 393.—GRAMINALES; sect. FESTUCINÆ; Burn. Outl. of Bot. v. i. pp. 359 and 369.

GEN. CHAR. *Panicle* spiked. *Spikelets* 1-flowered (see fig. 1). *Calyx* (see fig. 2.) of 2 equal, slender, membranous, spreading, fringed *glumes*, lengthened into feathery *awns*. *Corolla* (fig. 3.) of 2 unequal *paleæ*, thicker and firmer than the glumes; the outer palea longest, egg-oblong, concave, terminating in 2 equal, upright *awns*, shorter than the glumes, and bearing a much longer one from the middle of its back, twisting in the lower part, tapering and direct in the upper, reflexed when dry; inner palea smaller, involute, cloven, awnless. *Nectary* (fig. 5.) deeply cloven, acute. *Filaments* (see fig. 3.) 3, hair-like, shorter than the calyx. *Anthers* upright, oblong, cloven at each end. *Germen* (see fig. 4.) elliptic-oblong. *Styles* (see fig. 4.) very short. *Stigmas* cylindrical, feathery. *Seed* oblong, blunt, with a furrow along the front, loose, but enveloped in the unchanged corolla.

The dense, spiked *panicle;* the 1-flowered *spikelets;* the *calyx* of 2 equal, fringed *glumes*, lengthened into feathery awns; and the *corolla* of 2 *paleæ*, the outer of which is bifid at the apex, with a dorsal awn; will distinguish this from other genera in the same class and order.

Only One species known.

LAGU'RUS OVA'TUS. Ovate Hare's-tail-grass.

SPEC. CHAR.

Engl Bot. t. 1334 —Fl. Græc. v. i. p. 71. t. 90.—Host. Gram. Austr. v. ii. p. 34. t. 46.—Schreb. Gram. v. i. p. 143. t. 19. f. 3.—Linn. Sp. Pl. p. 119.—Willd. Sp. Pl. v. i. pt. 1. p. 453.—Dickson's Hortus Siccus, fasc. 7. 1. *fide* SMITH.—Sm. Fl. Brit. v. i. p. 143. Engl. Fl. v. i. p. 167.—With. (5th ed.) v. ii. p. 220.—Gray's Nat. Arr. v. ii. p. 153.—Lindl. Syn. p. 299.—Hook. Brit. Fl. p. 30.—*Alopecuros*, Johnson's Gerarde, p. 87. n. 1.—*Alopecuros genuina*, Morison. v. iii. p. 191. sect. 8. t. 4. f. 1.—Parkinson's Theatrum Botanicum, p. 1166. n. 1.—*Gramen spicatum tomentosum longissimis aristis donatum*, Scheuchzero Agrostographia, p. 58. t. 2. f. 4. B. C.—*Gramen alopecuroides, spicâ rotundiore*, Bauh. Pin. p. 4.

LOCALITIES.—In open sandy fields, near the sea, in the South; very rare.—In *Guernsey:* Mr. GOSSELIN, in *Dickon's Hort. Sicc.* In the same locality, in 1833: W. C. TREVELYAN, Esq., from whom wild specimens were sent to the *Sherardian Herbarium.*

Annual.—Flowers in June.

Fig. 1. Two of the Spikelets.—Fig. 2. The two Glumes of the Calyx.—Fig. 3. A single Floret, showing the two Paleæ, the Stamens, and the Pistils.—Fig. 4. The Germen, Styles, and Stigmas.—Fig. 5. Nectary.—*All a little magnified.*

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* From *lagos*, Gr. a *hare;* and *oura*, Gr. a *tail;* from the spike-like panicle resembling the tail of a hare. THORNTON.

† See folio 56, note †.

Root fibrous, fibres woolly. *Culm (stem)* from 4 inches to a foot, or more, high, upright, often geniculated (knee-bent) at the base, leafy; striated and downy at the top. *Leaves* spear-shaped, very soft and downy, wavy at the margins, blunt, or sometimes egg-shaped, at the base. *Sheaths (vaginæ)* inflated, ribbed, very downy. *Stipula (ligula)* oblong, downy. *Panicle* upright, or more or less inclining, very dense, forming an egg-shaped spike of many flowers, woolly from the copious soft hairs of the calyx. *Glumes* (see fig. 2.) equal, strap-spear-shaped, sharp pointed, and clothed with very long, white hairs. *Paleæ* (see fig 3.) unequal, the outer palea striated, hairy, bifid at the apex, with a long dorsal awn; inner palea shorter, membranous, smooth.

This is a very pretty grass, and extremely rare in a wild state in Britain, having been found only in the Isle of Guernsey. In the more southern parts of Europe it is much more frequent. Sir JAMES EDWARD SMITH observed it about the ruins of the Roman amphitheatre at Frejus in France; *(Tour on the Continent*, v. i. p. 198). It is also a native of Italy, Sicily, and Portugal.

" This is human happiness!
Its secret and its evidence are writ
In the broad book of nature. 'Tis to have
Attentive and believing faculties;
To go abroad rejoicing in the joy
Of beautiful and well-created things;
To love the voice of waters, and the sheen
Of silver fountains leaping to the sea;
To thrill with the rich melody of birds,
Living their life of music; to be glad
In the gay sunshine, reverent in the storm;
To see a beauty in the stirring leaf,
And find calm thoughts beneath the whispering tree;
To see, and hear, and breathe the evidence
Of GOD's deep wisdom in the natural world!
It is to linger on 'the magic face
Of human beauty,' and from light and shade
Alike to draw a lesson; 'tis to love
The cadences of voices that are tuned
By majesty and purity of thought;
To gaze on woman's beauty, as a star
Whose purity and distance make it fair;
And in the gush of music to be still,
And feel that it has purified the heart!
It is to love all virtue for itself,
All nature for its breathing evidence;
And, when the eye hath seen, and when the ear
Hath drunk the beautiful harmony of the world,
It is to humble the imperfect mind,
And lean the broken spirit upon GOD!"

N. P. WILLIS.

Oenothera biennis. Common Evening Primrose.

♂

Pubd. by W. Baxter, Botanic Garden, Oxford, 1834.

ŒNOTHE'RA *.

Linnean Class and Order. OCTA'NDRIA †, MONOGY'NIA.

Natural Order. ONAGRA'RIÆ, *Juss.*—Lindl. Syn. p. 107.; Introd. to Nat. Syst. of Bot. p. 56.—Rich. by Macgilliv. p. 522.—Loud. Hort. Brit. p. 513.—Don's Gen. Syst. of Gard. & Bot. v. ii. p. 675.—Mack. Fl. Hibern. p. 109.—ONA'GRÆ, Juss. Gen. Pl. p. 317.—Sm. Gram. of Bot. p. 166.---ROSALES; subord. MYRTOSÆ; sect. ONAGRINÆ; type, ONAGRACEÆ; Burn. Outl. of Bot. v. ii. pp. 614, 617, 722, & 728.---CALYCANTHEMÆ, *Linn.*

GEN. CHAR. *Calyx* superior, of 1 sepal, deciduous, tubular, with a deeply 4-cleft limb; the segments reflexed, and more or less combined. *Corolla* of 4, inversely heart-shaped, equal petals, attached to the summit of the tube of the calyx, and as long as the limb. *Filaments* (fig. 1.) 8, from the throat of the tube, awl-shaped, upright, or incurved, shorter than the petals. *Anthers* linear-oblong, peltate, incumbent. *Pollen* cohering by threads. *Germen* (see fig. 2.) inferior, oblong, furrowed. *Style* (see figs. 2 & 3) thread-shaped, the length of the stamens. *Stigma* (see figs. 2 & 3.) in 4 thick, blunt, spreading segments. *Capsule* (see figs. 4, 5, & 6.) cylindrical, or prismatic, clavate, or tetragonal; of 4 cells, and 4 valves. *Seeds* (fig. 7.) numerous, angular, naked, fixed to the central, quadrangular, unconnected placenta (see fig. 6).

Distinguished from other genera, in the same class and order, by the tubular, 4-cleft, superior *calyx;* the *corolla* of 4 petals; and the 4-valved capsule, containing numerous naked *seeds.*

One species British.

ŒNOTHE'RA BIE NNIS. Biennial or Common Evening Primrose. Tree Primrose. Evening Star.

SPEC. CHAR. Stem upright, branched. Radical Leaves oblong-spear-shaped; stem leaves egg-spear-shaped, toothed, pubescent. Petals hardly inversely heart-shaped, longer than the stamens. Lobes of the Stigma strap-shaped and thickish. Capsule nearly cylindrical, thickest at the base; its valves either entire or bifid, opening at the apex.

Engl. Bot. t. 1534.—Flora Danica, t. 446.—Linn. Sp. Pl. p. 492.—Willd. Sp. Pl. v. ii. pt. i. p. 306.—Sm. Engl. Fl. v. ii. p. 211.—With. (7th ed.) v. ii. p. 473.—Gray's Nat. Arr. v. ii. p. 559.—Lindl. Syn. p. 109.—Hook. Brit. Fl. p. 178.—Purt. Midl. Fl. v. i. p. 195.; and v. iii. p. 355.—Winch's Fl. of Northumberl. and Durham, p. 24.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 685.—Bab. Fl. Bath. p. 17.—*Œnothera foliis ovato-lanceolatis planis,* Linn. Virid. Cliff. 33.—Miller's Plates, p. 126. t. 189. f. 2.—*Lysimachia lutea siliquosa virginiana,* Park. Parad. p 264. t. 263. f. 6.

LOCALITIES.—On sandy soil; very rare.—*Durham;* On South Shields Ballast-hills: N. J. WINCH, Esq. Ballast-hills, near Sunderland: Mr. ROBSON.—*Essex;* On Warley Common: Dr. E. MAC INTYRE, in *Fl. Metrop.*—*Gloucestersh.* Near Bristol: Miss WORSLEY, in N. B. G.—*Kent;* On the top of Shooter's Hill: C. FINCH, in *Fl. Metrop.*—*Lancash.* Fields between Crosby and the Sea, near Liverpool: Dr. BOSTOCK. Southport, Formby and Crosby, undoubtedly wild: G. CROSFIELD, Esq.—*Somersetsh.* Naturalized in many

Fig. 1. Stamens.—Fig. 2. Germen, Style, & Stigma.—Fig. 3. Style & Stigma.—Fig. 4. Transverse section of the Capsule.—Fig. 5. Capsule, with the valves separated, showing the central Placenta.—Fig. 6. Transverse section of the same.—Fig. 7. A Seed.

* From *oinos,* Gr. *wine;* and *thera,* Gr. *searching,* or *catching;* from the root having caught the perfume of wine. HOOKER.

† See fol. 42, n. †.

parts of the suburbs of Bath: C. C. Babington, Esq.—*Suffolk;* It covers several acres of ground near Woodbridge: D. Turner, Esq.—*Surrey;* Battersea: Mr. W. Pamplin, jun. in N. B. G. Couldsdon: Rev. E. Wood, ibid.—*Warwicksh.* On the banks of the Arrow, at a distance from any house, abundantly: T. Purton, Esq.—*Wilts;* Near Great Bedwyn: W. Bartlett, Esq. In a neglected concavity, whence a coarse sand-stone had been formerly extracted, in Bowood Park, near Devizes: Mr. Norris.—*Worcestersh.* Occasionally on suspicious spots within sight of gardens: Mr. E. Lees, in *Illust. Yorksh.*—Potteric Car. east of Doncaster: Mr. S. Appleby, in *Mag. Nat. Hist.* vol. v. p. 557.—WALES. *Glamorgansh.* Near Swansea: J. E. Bicheno, Esq.

Biennial.---Flowers from July to September.

Root spindle-shaped, branched, fibrous; yellowish on the outside, white within. *Stem* from 2 to 4 feet or more high, upright, branched, leafy, of a pale green colour, rough with minute tubercles, and more or less hairy, often of a purplish-brown colour, especially towards the bottom. *Leaves* alternate, egg-shaped, or spear-shaped, pointed, slightly toothed, downy, grass-green; the lowermost on short petioles, wavy, and much larger than the upper ones. *Flowers* numerous, large, pale yellow, delicately fragrant, in terminal, leafy spikes. *Capsule* somewhat cylindrical, obscurely 4-cornered, rough.

This plant is a native of North America, in Virginia, Canada, and on the North-west coast, from whence it has migrated to Europe about the year 1614, and is now found apparently wild in some parts of England, especially in Lancashire and Suffolk. It is very common in gardens, where it is well adapted to the shrubbery. The flowers generally open in the evening, just as the sun sinks below the horizon. This opening is effected by a very sudden retraction of the segments of the limb of the calyx, which are forcibly thrown against its tube, and followed by an immediate expansion of the petals.

"The sun his latest ray has shed,
The wild-bird to its nest has sped,
And buds which to the day-beam spread
Their brightest glow,
Incline their dew-besprinkled head
In slumber now.

Then why art thou lone vigils keeping
Pale flower, when all beside are sleeping?
Are not the same soft zephyrs sweeping
Each tender stem,
And the same opiate dew-drops steeping
Both thee and them?

Eve is my noon—at this still hour
When softly sleeps each sister flower,
Sole watcher of the dusky bower
I joy to be,
And conscious feel the pale Moon shower
Her light on me.

Soon as meek Evening veils the sky,
And wildly fresh her breeze flits by,
And on my breast the dewdrops lie,
I feel to live,
And what is mine of fragrancy,
I freely give.

Say, thou who thus dost question me,
Wouldst thou from earth's dull cares be free,
O listen, and I'll counsel thee
Wisely to shun
Tumult and glare and vanity,
As I have done.

' Enter thy closet, shut the door,'
And heavenward let thy spirit soar,
Then softer dews than bathe the flower
On thee shall rest,
And beams which Sun nor Moon can pour
Illume thy breast,"—*The Moral of Flowers.*

Cakile maritima Purple Sea Rocket ⊙

J. Sowerby del. et lith. Published by W. Baxter Botanic Garden Oxford 1837 C. Mathews Sc.

CAKI'LE *.

Linnean Class and Order. TETRADYNA'MIA †, SILICULO'SA ‡.

Natural Order. CRUCI'FERÆ §, Juss. Gen. Pl. p. 237.—Sm. Gram. of Bot. p. 138. Engl. Fl. v. iii. p. 153.—Rich. by Macgilliv. p. 498.—CRUCIFERÆ; subord. PLEURORHIZEÆ ‖; tribe, CAKILINEÆ; Lindl. Syn. pp. 20, 22, & 28.; Introd. to Nat. Syst. of Bot. pp. 14 to 18.—Loud. Hort. Brit. pp. 498 & 499.; Mag. Nat. Hist. v. i. pp. 143 & 240.—Don's Gen. Syst. of Gard. and Bot. v. i. pp. 146 & 148.—Mack. Fl. Hib. pt. 1. p. 16.—ROSALES; subord. RHŒADOSÆ; sect. RHÆADINÆ; type, BRASSICACEÆ; subtype, ARABIDÆ; Burn. Outl. of Bot. pp. 614, 784, 847, 854, & 856.—SILIQUOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 4 nearly close, upright, oblong, deciduous sepals; the two opposite ones protuberant at the base. *Corolla* (fig. 2.) cruciform, of 4, inversely egg-shaped, blunt, spreading sepals (fig. 3.); their claws as long as the border, and equal to the calyx. *Filaments* (fig. 4.) 6, two shorter than the other four, awl-shaped, simple. *Anthers* oblong, cloven at the base. *Germen* (see fig. 4.) oblong. *Style* none. *Stigma* blunt, sessile. *Silicula (Pouch)* (fig. 5.) angular, of 2, 1-seeded, indehiscent joints, the upper joint sword-shaped or egg-shaped, deciduous, bearing an upright, sessile *seed* (see fig. 6.); the lower one (sometimes abortive) pendulous. *Cotyledons* (see figs. 7 & 8) accumbent (o=).

Distinguished from other genera, with accumbent *cotyledons*, in the same class and order, by the compressed *pouch* of 2, 1-seeded, indehiscent joints, the uppermost of which is deciduous; and the contrary direction of the *seeds*, when both are perfect.

One species British.

CAKI'LE MARI'TIMA. Purple Sea Rocket.

SPEC. CHAR. Joints of the Pouch 2-edged; the upper one with 2 teeth at the base. Leaves fleshy, pinnatifid, somewhat toothed.

Hook. Fl. Lond. t. 160.—Willd. Sp. Pl. v, iii. pt. 1. p. 416.—Ait. Hort. Kew. (2nd ed.) v. iv. p. 71.—Sm. Eng. Fl. v. iii. p. 183.—With. (7th ed.) v. iii. p. 751.—Gray's Nat. Arr. v. ii. p. 688.—Lindl. Syn. p. 28.—Hook. Brit. Fl. p. 293.; Fl. Scot. p. 193.—Grev. Fl. Edin. p. 139.—Fl. Devon. pp. 107 & 187.—Johnst. Fl. of Berw. v. i. p. 142.—Rev. G. E. Smith's Pl. of South Kent, p. 36.—Winch's Fl. of Northumb. and Durham, p. 43.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 200.—Mack. Cat. of Pl. of Irel. p. 61.; Fl. Hibern. p. 22.—*Cakile serapionis*, Gærtner, v. ii. p. 287. t. 141. f. 12.—*Cakile quibusdam, aliis Eruca marina et Raphanus marinus*, Bauh. Hist. v. ii. p. 867. f. 868.—Ray's Syn. p. 307.—Pl. Favershamienses, p. 17.—*Bunias Cakile*, Linn. Sp. Pl. p. 936.—Engl. Bot. t. 231.—Sm. Fl. Brit. v. ii. p. 694.—Lightf. Fl. Scot. v. i. p. 363.—Davies' Welsh Bot. p. 63.—*Eruca marina*, Johnson's Gerarde, p. 248.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. A separate Petal.—Fig. 4. Stamens and Pistil.—Fig. 5. Pouch.—Fig. 6. The same divided vertically to show the seed.—Fig. 7. A Seed.—Fig. 8. A transverse section of the same.

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* An Arabic word employed by SERAPIO for this plant. DON.

† See folio 38, note †. ‡ See folio 107, note ‡. § See folio 38, *a*.

‖ See folio 141, note ‖.

Localities.—On the sandy sea-coast; frequent.—*Cornwall;* On the shore near Penzance, &c.: Mr. Watson, in N. B. G.—*Devon;* Along the coast, frequent: *Fl. Devon.—Durham;* On the sandy sea-beach, frequent: N. J. Winch, Esq. Very common in sandy places by the Tees' Mouth: J. Hogg.—*Essex;* On the sandy shore at Walton: J. G. in *Loud. Mag. Nat. Hist.* v. iv. p. 447.—*Hampshire;* Ryde, Isle of Wight: Dr. Bostock.—*Kent;* On the west shore, near Folkstone Harbour; and at Lydden Spout: Rev. G. E. Smith. Near Sheerness in Shepey, and Cliff's End in Thanet: E. Jacob, Esq. in *Pl. Faversh.—Lancashire;* Boolle Sands: Mr. Watson, in N. B. G. Southport, and Presall: G. Crosfield, Esq. North shore, near Liverpool: Dr. Withering.—*Norfolk;* On the Beach at Yarmouth: Dawson Turner, Esq. Near Lynn: G. Cooper, in N. B. G.—*Northumberland;* On the sandy sea-beach, frequent: N. J. Winch, Esq.—In *Somersetshire:* Dr. Gapper, (now Southby), in N. B. G.—*Suffolk;* Southwold: Mr. Woodward.—In *Sussex:* Rev. G. E. Smith, in N. B. G.—*Yorkshire;* North Sands, near Scarborough: Rev. A. Bloxam, and E. F. Witts, Esq.—WALES. *Anglesey;* On the sandy sea-coast, not uncommon: Rev. H. Davies.—*Merionethshire;* Near Barmouth: *Mag. Nat. Hist.*—SCOTLAND. On Leith Sands, at Kirkaldy, on the coast of Fife, on the western side of Cantire, between Machrianish Bay and Barr: Rev. J. Lightfoot, in *Fl. Scot.* East coast from Aberdeen to Fraserburgh: Mr. Murray. On the coast at Caroline Park, &c.: Dr. Greville.—IRELAND. On sandy sea-shores, frequent: Mr. Mackay. On the coast of Waterford, near Coolum: Countess of Carrick.

Annual.—Flowers from June to October*.

Root small, slender, woody, running deep into the sand, and terminated by a few rigid fibres. *Stem* from 6 to 12 inches high, or more, smooth, woody, much branched, and spreading in every direction, both stem and branches often remarkably twisted and zigzag, never straight. *Leaves* scattered, thick, fleshy, a little glaucous, nearly sessile, variously pinnatifid, the lobes somewhat distant, entire or toothed. *Flowers* of a pale purple or bright lilac colour, in dense terminal corymbs, which are gradually elongated into fruit-bearing racemes. *Pouches* about an inch long, their lower joint generally abortive; they are upright, with 4 sharp edges, but so compressed as to be sword-shaped at the upper part, and when ripe the upper joint falls off, without bursting, leaving a cloven base behind. Sir W. J. Hooker mentions a variety with a white flower having been found on the coast of Ayr, by Mr. James Wilson.

The whole plant has a saltish taste, and is said to be a brisk cathartic, and it has been recommended as a diuretic and antiscorbutic.

I am indebted to the kindness of the Countess of Carrick for the specimen from which the Drawing for the accompanying plate was made. Dawson Turner, Esq. has also favoured me with specimens from Yarmouth.

"I have often thought that flowers were the alphabet of Angels, whereby they write on hills and fields mysterious truths."—*The Rebels.*

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* A correspondent in Mr. Loudon's *Magazine of Natural History*, v. iv. p. 447, who signs himself J. G., says that it was blooming, in spite of the wintry blasts to which it was exposed, in the twelfth month (December), 1830; and that its colours were then much more brilliant than is usually the case in Summer.

Rhinanthus Crista-Galli: Common Yellow Rattle.

Pub. by W.B. Carter, 3 Junction Terrace, Oxford 1837.

RHINA'NTHUS*.

Linnean Class and Order. DIDYNA'MIA†, ANGIOSPE'RMIA‡.

Natural Order. SCROPHULARI'NEÆ§, *Dr. R. Brown.*—Lindl Syn. p. 187.; Introd. to Nat. Syst. of Bot. p. 228.—Mack. Fl Hibern. p. 198.—SCROPHULA'RINÆ, Rich. by Macgilliv. p. 434.—Sm. Engl. Fl. v. iii. p. 115.—Loud. Hort. Brit, p. 528.—PEDICULARES, Juss. Gen. Pl. p. 99.—Sm. Gram. of Bot. p. 96.—SYRINGALES; subord. PRIMULOSÆ; sect. MENTHINÆ; type, SCROPHULARIA'CEÆ; Burn. Outl. of Bot. v. ii. pp. 900, 958, & 978.—PERSONATÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, compressed, somewhat inflated, rounded, bladdery, veiny, permanent; the margin in 4 nearly equal, acute, deep teeth, broad at their base. *Corolla* (fig. 3.) ringent, nearly closed; tube almost cylindrical, the length of the calyx; upper lip narrowest, hooded, compressed, slightly cloven; lower broadest, expanded, divided half way into 3 blunt lobes, the middle one rather the largest. *Filaments* (fig. 4.) 4, two longer than the other two, thread-shaped, shorter than the upper lip of the corolla, and concealed within it. *Anthers* incumbent, 2-lobed, hairy, not prominent. *Germen* (see fig. 2.) egg-shaped, compressed, with a channel on each side. *Style* (see fig. 2.) thread-shaped, curved, somewhat longer than the stamens. *Stigma* deflexed, blunt. *Capsule* (fig. 5.) roundish egg-shaped, compressed, blunt, with a small point, of 2 cells, and 2 valves separating at the margin; *partitions* transverse, combined, narrow. *Seeds* several, inversely egg-shaped, compressed, imbricated, curved downwards, more or less bordered.

The 4-cleft, inflated *calyx;* the *capsule* of 2 cells; and the compressed, bordered, imbricated *seeds;* will distinguish this from other genera in the same class and order.

Two species British.

RHINA'NTHUS CRISTA GALLI. Common Yellow Rattle. Cock's-comb. Penny-grass.

SPEC. CHAR. Leaves spear-shaped, serrated. Flowers in lax spikes. Calyx smooth. Style included. Seeds with a broad membranous border.

Fig. 1, Calyx.—Fig. 2. Calyx opened vertically to show the Germen and Pistil.—Fig. 3. Corolla.—Fig. 4. The Stamens.—Fig. 5. Capsule, with the valves separating.—Fig. 6. The same with the valves opened, showing the imbricated seeds.—Fig. 7. A transverse section of the Capsule.—Fig. 8. A Seed.

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* From *rin*, Gr. a *nose;* and *anthos*, Gr. a *flower;* in allusion to the beaked upper lip of the corolla, which is very remarkable in the exotic *Rhinanthus Elephas*. Sir W. J. HOOKER.

† See folio 31, note †. ‡ See folio 72, note ‡. § See folio 50, *a*.

Engl. Bot. t. 657. – Curt. Fl. Lond. t. 320. – Curt. Brit. Entom. v. x. t. 449. – Mart. Fl. Rust. t. 138. – Linn. Sp. Pl. p. 840, *a*. – Huds. Fl. Angl. (2nd ed.) p. 268, *a*. – Willd. Sp. Pl. v. iii. pt. II. p. 188, *a*. – Sm. Fl. Brit. v. ii. p. 649. ; Engl. Fl. v. iii. p. 120. – With. (7th ed.) v. iii. p. 727, var. *a*. – Lindl. Syn. p. 190. – Hook. Brit. Fl. p. 283. – Light. Fl. Scot. v. i. p. 322, *a*. – Sibth. Fl. Oxon. p. 192. – Abb. Fl. Bed. p. 134. – Davies' Welsh Bot. p. 60. – Purt. Mid. Fl. v. i. p. 285. – Relh. Fl. Cant. (3rd ed.) p. 249. – Hook. Fl. Scot. p. 186. – Grev. Fl. Edin. p. 135. – Fl. Devon. pp. 103 & 147. – Johnst. Fl. of Berw. v. i. p. 135. – Winch's Fl. of Northumb. and Durh. p. 41, *a*. – Walker's Fl. of Oxf. p. 173. – Jacob's West Devon and Cornwall Flora. – Bab. Fl Bath. p. 36 – Mack. Catal. of Pl. of Irel. p. 57. ; Fl. Hibern. p. 201. – *Rhinanthus glaber, a*, Gray's Nat. Arr. v. ii. p. 311. – *Pedicularis seu Crista galli lutea*, Ray's Syn. p. *284. – *Crista galli*, Johnson's Gerarde, p. 1071.

Localities. – In meadows and pastures; common.

Annual. – Flowers in June.

Root small, fibrous. *Stem* from 6 inches to a foot or more high, upright, 4-cornered, smooth, rigid, leafy ; simple, or branched, and often spotted with red or purple. *Leaves* opposite, spear-shaped, sessile, spreading, pointed, sharply serrated, rough and minutely wrinkled on both sides, from an inch to an inch and a half long, dilated and heart-shaped at the base. *Bracteas* like the leaves, but broader at the base, and more deeply toothed, the teeth pointed. *Flowers* on very short peduncles, axillary in the bracteas, each pair crossing the next, and, altogether, forming a kind of loose, interrupted spike. *Calyx* large, bladdery, strongly ribbed, smooth, of a pale yellowish-green colour. *Corolla* yellow ; the segments of its upper lip short, bluish. *Nectary* an egg-shaped, purple, concave scale at the base of one edge of the broad flattish *germen*. *Anthers* red, awnless, of 2 distant very hairy lobes, quite concealed by the arched upper lip of the *corolla*, as are likewise the *style* and *stigma*, though the latter sometimes becomes prominent as the flower fades. *Capsule* dry and membranous, bordered at the edge, and terminating in a short point. *Seeds* brown, smooth, with a thin, flat, broadish, membranous border.

This plant is reckoned unprofitable to the farmer, encumbering rather than enriching his crop of hay, as cattle are not fond of it, and whether they ever eat it by choice is doubtful. When the fruit is ripe, the *seeds* rattle in the husky capsule, and hence the English name of *Yellow Rattle ;* for the same reason it is, in Ireland, called *Rattle Box*. It is known in some counties by the name of *Penny-grass ;* and in Yorkshire by that of *Hen-penny ;* from the shape and size of the seed-vessel, like a silver penny. Its other appellation of *Cock's-comb* is derived from the appearance of the bracteas. The rattling of the seeds in the capsules, indicates to the Swedish peasant, as Linnæus informs us, the time of cutting his grass for hay. In England we have better indications, such as the flowering-heads of wild Red Clover beginning to fade, and the predominant grasses of the crop opening their glumes, and displaying their anthers. The growth of this plant is remarkably quick, and is supposed in some foreign countries to be very injurious to the crop of Rie. With us it abounds only in poor pastures, and some woods. See Smith's *English Flora ;* and Miller's *Gard. Dict.*, by Martyn.

Ceratophyllum demersum. Hornwort. 4

W. Willis Del et Sc

Published by W. Baxter. Botanic Garden Oxford. 1837

CERATOPHY'LLUM*.

Linnean Class and Order. Monœcia†, Polyan'dria.

Natural Order. Ceratophylleæ, Gray's Nat. Arr. of Brit. Plants, v. ii. p. 554.—De Cand. Prod. v. iii. p. 73.—Lindl. Syn. p. 225.; Introd. to Nat. Syst. of Bot. p. 176.—Loud. Hort. Brit. p. 514.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 705.—Mack. Fl. Hibern. p. 239.—Naiades, Juss. Gen. Pl. p. 18.—Sm. Gram. of Bot. p. 66.—Quernеales; sect. Hippurineæ; type, Ceratophyllaceæ; Burn. Outlines of Botany, pp. 523, 576, & 578.—Inundatæ, *Linn.*

Gen. Char. *Barren Flower* (fig. 1). *Calyx* inferior, in many, deep, equal, oblong, permanent, upright segments. *Corolla* none. *Stamens* twice as many as the segments of the calyx, from 12 to 20, without filaments. *Anthers* oblong, upright, rising above the calyx. *Fertile Flower* (f. 2.) *Calyx* as in the barren flower. *Corolla* none. *Germen* (see fig. 2.) superior, egg-shaped, compressed, 1-celled. *Style* scarcely any. *Stigma* (see fig. 2.) simple, thread-shaped, oblique. *Nut* (fig. 3.) somewhat egg-shaped, compressed, 1-celled, 1-seeded, indehiscent, crowned with the permanent, hardened stigma. *Seed* (see fig. 5.) solitary, the shape of the *nut* (see fig. 4.); with 4 cotyledons, alternately smaller; and a many-cleft, central *embryo* (see fig. 7).

The many-cleft *calyx;* want of a *corolla;* the number of stamens in the *barren flower*, from 12 to 20; and the nearly sessile, thread-shaped, oblique stigma; and superior, 1-seeded *nut* of the *fertile flower;* will distinguish this from other genera in the same class and order.

Two species British.

CERATOPHY'LLUM DEME'RSUM. Demersed Hornwort. Common Hornwort.

Spec. Char. Fruit armed with 3 spines, which are unequal, one terminal, and two lateral. Segments of the calyx notched at the extremity.

Perennial.—Flowers in August and September.

Engl. Bot. t. 947.—Linn. Sp. Pl. p. 1409.—Huds. Fl. Angl. (2nd ed.) p. 419, a.—Willd. Sp. Pl. v. iv. pt. 1. p. 405.—Sm. Fl. Brit. v. iii. p. 1020.; Engl. Fl. v. iv. p. 141.—With. (7th ed.) v. ii. p. 572.—Lindl. Syn. p. 225.—Hook. Brit. Fl. p. 405.—Lightf. Fl. Scot. v. ii. p. 580.—Sibth. Fl. Oxon. p. 168.—Relh. Fl. Cant. (3rd ed.) p. 392.—Purt. Midl. Fl. v. iii. p. 70.—Hook. Fl. Scot. pt. 1. p. 272. and pt. II. p. 297.—Grev. Fl. Edin. p. 201.—Fl. Devon. pp. 154 & 195.—Winch's Fl. of Northumb. and Durham, p 61.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 705.—Walker's Fl. of Oxf. p. 279.—Bab. Fl. Bath. p. 17.—Mack. Catal. of Pl. of Irel. p. 82.; Fl. Hibern. p. 240.—*Ceratophyllum cornutum*, Rich. Mem. Mus.—Gray's Nat. Arr. v. ii. p. 554.—*Dichotophyllon*, Dill. Giss. p. 149.—*Hydroceratophyllon folio aspero, quatuor cornibus armato*, Ray's Syn. p. 135.

Fig. 1. A Barren Flower.—Fig. 2. A Fertile Flower.—Fig. 3. Fruit.—Fig. 4. A vertical section of the Fruit or Nut.—Fig. 5. Seed.—Fig. 6. A transverse section of the Nut.—*All more or less magnified.*

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* From *keras*, Gr. a *horn;* and *phyllon*, Gr. a *leaf;* in reference to the leaves being branched, like a stag's horn. Don.

† See folio 83, note †.

Localities.—Under water, in slow streams, ditches, and ponds; not uncommon.—*Oxfordshire;* Plentiful about Oxford.—*Berks;* About Wallingford: Mr. W. Willis, Engraver, Wallingford.—*Cambridgesh.* In ditches and ponds: Rev. R. Relhan.—*Devon;* River Clyst, by Clyst Bridge: *Fl. Devon.*—*Durham;* In ditches on Durham Moor: Rev. J. Symons.—*Essex;* In Mr. Warner's, and most of the ponds on the Forest, near Woodford; very common, 1771; Richard Warner, Esq.—*Kent;* Fish-pond in a wood behind the Sussex Tavern, and elsewhere: *Fl. Tonb.* In S. Kent: Rev. G. E. Smith.—*Middlesex;* Thames near Hampton Court? (without flowers): Mr. Watson, in N. B. G.—*Norfolk;* Not uncommon: *Hist. Yar.* Heigham near Norwich: N. J. Winch, Esq.—In *Nottinghamshire:* T. H. Cooper, Esq. in N. B. G.—*Somersetshire;* In the Canal, near Bath: C. C. Babington, Esq.—*Suffolk;* Near Bungay: Mr. D. Stock, in N. B. G.—In *Sussex;* Rev. G. E. Smith, in N. B. G.—*Warwickshire;* In a stew of the Rev. W. T. Bree's at Allesley: T. Purton, Esq.—*Worcestershire;* In fish-ponds at W. Rawlins', Esq. Brockencot, filling nearly the whole of one pool: T. Purton, Esq.—SCOTLAND; Common: Sir W. J. Hooker.—IRELAND; Pools near the Bridge at Navan: Dr. Scott. Near Killaleagh, Isle of Rathlin, and Lough Neagh: Mr. Templeton.

Perennial.—Flowers in August and September.

Root striking deep in the mud. *Stem* floating entirely under water, long, slender, and much branched. *Leaves* in whorls, spreading, about 8 in a whorl, the lower whorls most distant, the upper closer, those towards the top very much crowded; each leaf repeatedly cut into fine, strap-shaped, equal, pointed, roughish segments. *Flowers* few, in the axils of the leaves, solitary, sessile, pale green. *Anthers* sessile. *Fruit* (fig. 3.) armed with 2 spreading lateral spines, and a terminal one from the elongated *Stigma;* all very variable in length. Differs from *Ceratophyllum submersum* in the armed fruit.

This is an elegant plant in appearance, and seems to be an excellent shelter for fish; giving way to the slightest pressure. Mr. Purton mentions this plant having become very abundant in a pond, (after the process of mudding,) wherein it had been unknown before; and conjectures that, till then, the seeds must have been buried too deep for vegetation; a circumstance which, doubtless, may frequently account for the fluctuating appearance of plants. See *Purt. Midl. Fl.* and *With. Bot. Arr.*

The *Natural Order* Ceratophylleæ consists of apetalous, dicotyledonous, floating *herbs*, with multifid, cellular *leaves;* monœcious *flowers;* and an inferior, many-parted *calyx*. In the *barren flowers* the *stamens* are from 12 to 20 in number; the *anthers* are 2-celled, and without filaments. In the *fertile flower* (which is destitute of stamens) the *ovary (germen)* is superior, and 1-celled; the *ovule (seed)* is solitary, and pendulous; the *stigma* thread-shaped, oblique, and sessile; the *nut* (figs. 3 and 4.) 1-celled, 1-seeded, indehiscent, and terminated by the hardened stigma. The *seed* is solitary, pendulous, and without albumen; it has an *embryo* of 4 cotyledons, which are alternately smaller; with a many-leaved *plumule;* and a superior *radical.*—*Ceratophyllum* is the only genus in the order.

I Russell I et

Arum maculatum. Cuckow pint. 2.

W B

A'RUM*.

Linnean Class and Order. MONŒ'CIA†, POLYA'NDRIA.

Natural Order. AROI'DEÆ, Juss. Gen. Pl. p. 23.—Sm. Gram. of Bot. p. 67.—Lindl. Syn. p. 246.; Introd. to Nat. Syst. of Bot. p. 286.—Rich. by Macgilliv. p. 388.—Loud. Hort. Brit. p. 541.—Mack. Fl. Hibern. p. 261.—JUNCALES; sect. ACORINÆ; type, CALLACEÆ; Burn. Outl. of Bot. v. i. pp. 403, 408, & 410.—PIPERITÆ, *Linn.*

GEN. CHAR. *Spatha* of 1 leaf, upright, oblong, convolute at the base; converging above; contracted towards the middle; coloured within; containing the *flowers*, which are situated on a *spadix* or *common stalk* (see fig. 1, *d.*), the upper part of which is naked, coloured, nearly cylindrical, and at length withering. *Flowers* monœcious, without either calyx or corolla; the *barren ones* of numerous stamens, with very short and thick *filaments*, disposed in a dense ring, of several rows, round the *spadix*, within the convoluted part of the spatha (see fig. 1, *a*), and surmounted, at a small distance above, by another aggregate ring, of apparently abortive, slender-pointed filaments (see fig. 1, *c.*). *Anthers* of 2 lateral, elliptic-oblong, single-celled lobes, opening by solitary pores. *Fertile Flowers* (see fig. 1, *b.*) in a dense, compound ring at the base of the spadix. *Germen* (see fig. 1, *b.*) sessile, inversely heart-shaped. *Style* none. *Stigma* downy. *Berry* (see figs. 2 & 3.) juicy, globose, 1-celled, many-seeded. *Seeds* (see fig. 3.) roundish, or angular, with a simple *embryo*.

Distinguished from other genera, in the same class and order, by the *spatha* of 1 leaf, enclosing a *spadix*, which bears the *barren flowers* in a dense ring about the middle, and the *fertile ones* at the base, its summit being naked; and by the 1-celled, many-seeded *berry*.

One species British.

A'RUM MACULA'TUM. Spotted-leaved Arum. Cuckow-pint. Wake-robin. Lords and Ladies.

SPEC. CHAR. Leaves all radical, halbert-shaped, entire. Spadix club-shaped, blunt, shorter than the spatha.

Engl. Bot. t. 1298.—Curt. Fl. Lond. t. 114.—Woodv. Med. Bot. v. i. p. 74. t. 25.—Steph. & Church. Med. Bot. v. i. t. 22.—Curt. Brit. Entomol. v. xiii. t. 607.—Linn. Sp. Pl. p. 1370.—Huds. Fl. Angl. p. 395.—Willd. Sp. Pl. v. iv. pt. i. p. 483.—Sm. Fl. Brit. v. iii. p. 1024.; Engl. Fl. v. iv. p. 146.—With. (7th ed.) v. iii. p. 669.—Lindl. Syn. p. 246.—Hook. Brit. Fl. p. 406.—Lightf. Fl. Scot. v. i. p. 528.—Sibth. Fl. Oxon. p, 177.—Abbot's Fl. Bedf. p. 197.—Davies' Welsh. Bot. p. 90.—Purt. Midl. Fl. v. ii. p. 431.—Relh. Fl. Cant. (3rd ed.) p. 394.—Thornt. Fam. Herb. p. 750, with a figure.—Hook. Fl. Scot. p. 272.—Grev. Fl. Edin. p. 202.—Fl. Devon. pp. 154 & 114.—Johnst. Fl. Berw. v. i. p. 205.—Winch's Fl. of Northumb & Durham, p. 61.—Walker's Fl. of Oxf. p. 280.—Bab. Fl. Bath. p. 53.—Mack. Catal. of Pl. of Irel. p. 82.; Fl. Hibern. p. 262.—*Arum*, Ray's Syn. p. 266.—*Arum vulgare*, Johnson's Gerarde, p. 834.—Mill. Icon. p. 35. t. 52. f. 1.—Gray's Nat. Arr. v. ii. p. 38.

Fig. 1. The Spadix. *a.* Barren Flowers; *b.* Germens, or Fertile Flowers; *c. c.* Roundish bodies terminated by longish filaments; these LINNÆUS called the nectaries.—Fig. 2. A Spike of Berries.—Fig. 3. A Berry divided transversely, showing the Seeds.

* From *Ara*, Gr. *noxa, injury*; because the root, when eaten without preparation, affects the tongue with a pungency as if it were pricked with a needle. PHILLIPS.

† See *Bryonia dioica*, folio 83, note †.

Localities.—In woods, bushy places, borders of fields, and hedge banks; common.

Perennial.—Flowers in May.

Root tuberous, whitish. *Stem* none. *Leaves* all radical, from 2 to 4 in number, petiolate, broadly arrow-shaped, more or less halbert-shaped, pointed, upright, smooth, of a bright glossy green, generally more or less spotted with black; their petioles or stalks dilated at the base, and sheathing the flower-stalk. *Spatha* large, from 6 to 8 inches high, or more in shady places, usually pale green, but varying in colour, and sometimes spotted like the leaves, very concave, the margins convolute, the summit pointed. *Spadix* (fig. 1, *d.*) long, varying in colour from a pale buff to a fine purple or deep carmine; naked, and club-shaped at top; at its base are the *germens* (*b*), the sessile *anthers* (*a*), and the *nectaries* (c). *Berries* on a blunt spike, bright scarlet, viscid, remaining long after the leaves and spatha have past away. *Seeds* 2 or more in each berry.

The Root and Leaves of the *Arum*, when fresh, are so extremely pungent, that it is highly disagreeable to taste them, but they lose this acrimony in drying, and the roots become farinaceous and insipid. After the acrimony of the roots has been extracted, either by boiling or baking, they afford a very mild and wholesome farinaceous nutriment, resembling Salep. Many nations prepare the only bread they have from plants as acrimonious as this; first dissipating the noxious qualities by heat.

The Root dried and powdered is used by the French as a lotion, and is sold at a high price, under the name of Cypress Powder. Starch has been also prepared from the root; but Gerarde observes, that the hands are apt to be blistered in using it. Mr. Loudon, in his valuable *Encyclop. of Gardening*, informs us, that in the Isle of Portland the common people dig up the roots, which they macerate and steep, and the powder so obtained is dried, and sent to London, and sold under the name of Portland Sago.

The Flower has been cited as affording a remarkable instance of the spontaneous heat generated in vegetables; which, according to the observations of Lamarck and Senebier, is evolved in a very obvious degree for several hours, subsequent to the first opening of the spatha.

Æcidium Ari, Hook. Br. Fl. v. ii. pt. ii. p. 369, is sometimes found, parasitical, on the under side of the leaves of this plant, in the neighbourhood of Oxford. I have observed it in Bagley Wood; and Mr. George Gulliver, Surgeon, found it, some years ago, near Banbury.

Mrs. F. Aranella Rowden thus cautions Children against the Berries of the Arum:—

"Oh! wander not where Dragon Arum showers
Her baleful dews, and twines her purple flowers,
Lest round thy neck she throw her snaring arms,
Sap thy life's blood, and riot on thy charms,
Her shining berry, as the ruby bright,
Might please thy taste, and tempt thy eager sight;
Trust not this specious veil; beneath its guise,
In honied streams a fatal poison lies.

So Vice allures with Virtue's pleasing song,
And charms her victims with a Siren's tongue."

Ilex Aquifolium. Common Holly. h

Pub.d by W. Baxter Botanic Garden Oxford 1838

Russel del. C. Mathews Sc.

I'LEX*.

Linnean Class and Order. TETRA'NDRIA†, TETRAGY'NIA.

Natural Order. AQUIFOLIA'CEÆ, *De Cand.*—Lindl. Key, p. 63.—Rich. by Macgilliv. p. 538.—Loud. Arb. Brit. p. 504.—ILICINEÆ, Lindl. Syn. p. 73.; Introd. to Nat. Syst of Bot. p. 178.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 14.—Mack. Fl. Hib. p. 71.—CELASTRINEÆ, tribe, AQUIFOLIACEÆ; Loud. Hort. Brit. p. 508.—RHAMNI, Juss. Gen. Pl. p. 376.—Sm. Gram. of Bot. p. 182.—ROSALES; subord. MYRTOSÆ; sect. ILICINÆ; type, AQUIFOLIACEÆ; Burn. Outl. of Bot. v. ii. pp. 614 & 617.—DUMOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, small, of 1 sepal, with 4 or 5 small teeth, permanent. *Corolla* (figs. 2 & 3) much larger than the calyx, wheel-shaped, in 4 or 5 deep, elliptical, spreading, concave segments; or of 4 or 5 *petals* cohering by their broad bases. *Filaments* (see figs. 2 & 3.) 4 or 5, awl-shaped, shorter than the corolla, and alternate with its segments. *Anthers* small, 2-lobed. *Germen* roundish. *Styles* none. *Stigmas* 4 or 5, blunt, permanent, either distinct or united in one. *Berry* (fig. 4.) globular, including 4 or 5, 1-seeded nuts (see figs. 5, 6, & 7), each oblong, pointed, angular at the inside, rounded externally. *Seed* inverted; *albumen* fleshy; *embryo* in the apex. *Flowers* sometimes polygamous.

Distinguished from other genera, in the same class and order, by the 4- or 5-toothed *calyx;* the wheel-shaped *corolla*, of 4 or 5 deep segments; and the globular *berry*, including 4 or 5, 1-seeded *nuts.*

One species British.

I'LEX AQUIFO'LIUM. Common Holly. Hulver. Hulfere. Holme.

SPEC. CHAR. Leaves egg-shaped or oblong, acute, shining, wavy, spiny-toothed. Peduncles axillary, short, many-flowered. Flowers nearly umbellate.

Engl. Bot. t. 496.—Fl. Dan. t. 508.—Curt. Brit. Entomol. v. ii. t. 59.—Linn. Sp. Pl. p. 181.—Hunt. Evelyn's Silva, p. 383, with a plate.—Huds. Fl. Angl. (2nd edit.) p. 446.—Willd. Sp. Pl. v. i. pt. 1. p. 707.—Sm. Brit Fl. v. i. p. 192.; Engl. Fl. v. i. p. 227.—Wither. (7th ed.) v. ii. p. 254.—Lindl. Syn. p. 74.—Hook. Brit. Fl. p. 72.—Lightf. Fl. Scot. v. i. p. 121.—Sibth. Fl. Oxon. p. 64.—Abbot's Fl. Bedf. p. 37.—Davies' Welsh Bot. p. 17.—Purt. Midl. Fl. v. i. p. 103.—Relh. Fl. Cant. (3rd ed.) p. 66.—Hook. Fl. Scot. p. 57.—Grev. Fl. Edin. p. 40.—Sylvan Sketches, p. 164.—Fl. Devon. pp. 30 & 178.—Johnst. Fl. of Berw. v. i. p. 39.—Winch's Fl. of Northumb. and Durham, p. 10.—Walker's Fl. of Oxf. p. 43.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 16.—Loud. Arb. Brit. p. 505. t. 59.—Bab. Fl. Bath. p. 11.—Mack. Catal. of Pl. of Irel. p. 19.; Fl. Hibern. p. 72.—*Ilex vulgaris*, Gray's Nat. Arr. v. ii. p. 491.—*Agrifolium*, Johnson's Ger. p. 1338.—Ray's Syn. p. 466.—*Aquifolium*, Mill. Icon. p. 31. t. 46.

LOCALITIES.—In woods, hedges, and on heaths, generally in dry elevated situations; frequent.

Fig. 1. Calyx.—Figs. 2 & 3. Corolla and Stamens.—Fig. 4. Berry.—Fig. 5. The Nuts, after the fleshy part of the berry is removed.—Figs. 6 & 7. The Nuts separated.

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* So named, by C. BAUHIN, and LOUREIRO, on account of the resemblance of its leaves to those of the *Quércus Ilex*, the true *Ilex* of VIRGIL.—LOUDON.

† See folio 16, note †.

Tree.—Flowers in May.

A handsome evergreen tree, growing to the height of from 20 to 30 feet in a wild state, and to twice that height in a state of cultivation. *Bark* smooth, greyish. *Wood* hard and close-grained. *Leaves* alternate, stalked, rigid, surrounded by a strong cartilaginous border; tough, shining, wavy, lobed, each lobe terminating in a strong, sharp thorn; sometimes in old trees the upper leaves are entire, with only a terminal prickle. *Flowers* small, white, tinged externally with purple, somewhat umbellate, usually three together, from the axils of the leaves, the earliar ones least perfect. *Calyx* slightly hairy, very small. *Berries* bright scarlet, casually yellow, crowned with the calyx, which turns black. *Nuts, (seeds* of Linn.) (see figs. 5, 6, & 7.) three or four.

Numerous varieties of this tree are cultivated in gardens, and that with yellow berries has been found wild in England. They are all highly ornamental in clumps, borders, and other parts of pleasure-grounds, affording much variety when judiciously intermixed.

The HOLLY makes an impenetrable fence, and bears cropping well; nor is its verdure, or the beauty of its scarlet berries, ever observed to suffer from the severest of our winters. It would be preferable to the hawthorn for hedges, were it not for the slowness of its growth. The wood is the whitest of all hard woods, and is useful for various purposes. It is used in veneering, in turnery, in engineering, in mathematical-instrument making, and even for wood engraving; but one of its principal uses, at present, is, when dyed black, to be substituted for ebony, in the handles of metal tea-pots, &c. The strongest straight shoots, deprived of their bark, are made into whip-handles and walking-sticks; and the young shoots and the branches are given to sheep and deer, during the winter, in France. From the bark birdlime is made. The berries are purgative, and six or eight of them will occasion violent vomiting. Though they are considered as poisonous to men, yet they form the food of some birds, more especially of thrushes. The use of the Holly at Christmas for ornamenting churches and dwelling-houses, is well known; though the origin of the practice is uncertain.

The disciples of ZOROASTER believed that the sun never shadows the Holly-tree; and the followers of that Philosopher, who still remain in Persia and India, are said to throw water impregnated with Holly bark in the face of a child newly born.

In The Language of Flowers, the Holly signifies foresight. It is the badge of the clan DRUMMOND in Scotland.

For many interesting particulars respecting the *Geography, History, Properties and Uses; Mythological, Legendary, and Poetical Allusions; Propagation and Culture; Statistics,* &c. of the Holly, see Mr. LOUDON'S admirable work, *The Arboretum et Fruticetum Britannicum*, pp. 505 to 516.

Two very beautiful Lichens, *Opégrapha elegans*, Hook. Br. Fl. v. ii. p. 146; and *Thelotréma lepadinum*, ibid. p. 161; are not uncommon on the bark of the Holly in Bagley Wood, near Oxford; and *Eustégia Ilicis; Ceuthóspora phascidioides;* and *Sphæria Ilicis;* are common on the dead leaves.

The *Natural Order* AQUIFOLIA'CEÆ, is composed of dicotyledonous *trees* or *shrubs*, with alternate or opposite, coriaceous *leaves;* and small, axillary, solitary, or faciculated *flowers*. The *calyx* is 4-, 5-, or 6-sepaled, and imbricated in the bud. The *corolla* is hypogynous, and 4- or 5-parted, with as many *stamens* inserted into it, alternately with its segments. The *ovary* is from 2- to 6-celled, with a pendulous ovule in each cell. The *fruit* is fleshy, indehiscent, with from 2 to 6 stones or nuts, each containing a pendulous seed, which has a large fleshy albumen.

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THE'SIUM *.

Linnean Class and Order. PENTA'NDRIA †, DIGY'NIA.

Natural Order. SANTALA'CEÆ, *Dr. R. Brown.*—Lindl. Syn. p. 207.; Introd. to Nat. Syst. of Bot. p. 74.—Rich. by Macgilliv. p. 420.—Loud. Hort. Brit. p. 532.—ELÆAGNI, Juss. Gen. Pl. p. 74.—Sm. Gram. of Bot. p. 86.—QUERNEALES; sect. LAURINÆ; type, SANTALACEÆ; subtype, SANTALIDÆ; Burn. Outl. of Bot. pp. 523, 563, 573, & 574.—VEPRECULÆ, *Linn.*

GEN. CHAR. *Calyx* (figs. 1 & 2.) superior, of 1 sepal, internally coloured, divided half way down into 4 or 5 spreading segments, with intermediate notches, permanent. *Corolla* none. *Filaments* 4 or 5, short, awl-shaped, upright, inserted into the base of each segment of the calyx, in the centre. *Anthers* roundish. *Germen* (see fig. 3.) inferior, roundish, ribbed. *Style* thread-shaped, as long as the stamens. *Stigma* cloven. *Drupa* (fig. 4.) oblong, angular, dry, coriaceous, crowned by the inflexed calyx. *Nut* roundish.—Dr. BROWN describes a small tuft of hairs at the outside of each *stamen*. SMITH.

The superior 4- or 5-cleft, permanent *calyx;* the *stamens* with a small tuft of hairs; and the inferior, somewhat drupaceous *nut;* will distinguish this from other genera, without a *corolla*, in the same class and order.

One species British.

THE'SIUM LINOPHY'LLUM. Flax-leaved Bastard-Toad-Flax ‡.

SPEC. CHAR. Leaves strap-spear-shaped. Racemes branched. Bracteas three together. Tube of the Calyx very short. Fruit nearly globose.

Engl. Bot. t. 247.—Curt. Brit. Entomol. vol. v. t. 228.—Linn. Sp. Pl. p. 301.—Hud. Fl. Angl. (2nd ed.) p. 101.—Willd. Sp. Pl. v. i. pt. II. p. 1211.—Sm. Fl. Brit. v. i. p. 269.; Engl. Fl. v. i. p. 337.—With. (7th ed.) v. ii p. 340. Gray's Nat. Arr. v. ii. p. 264.—Lindl. Syn. p. 208.—Hook. Brit. Fl. p. 110.—Sibth. Fl. Oxon. p. 414.—Relh. Fl. Cant. (3rd ed.) p. 102, with a plate.—Purt. Midl. Fl. v. iii. p. 21.—Walker's Fl. of Oxf. p. 68.—*Linaria adulterina*, Ray's Syn. p. 202.

LOCALITIES.—On elevated chalky pastures; not common.—*Oxfordshire;* Near old gravel-pits by the road side between Bayswater and Stanton St. John: W. B.—*Berks;* On the Downs at Streatley; May 13, 1819: W. B. Chalk-banks near Hurley: Mr. GOTOBED.—*Bucks;* Chalk-banks near Morton: Mr. GOTOBED.—*Cambridgeshire;* On Gogmagog Hills; Triplow Heath; between Hinton and Fulbourn; Teversham; Bottisham; between Linton and Hildersham; Newmarket Heath; and Chippenham Moor: Rev. R. RELHAN. Abundant near Snailwell, three miles East of Newmarket: Rev. J. DALTON.—

Figs. 1 & 2. Calyx.—Fig. 3. Germen, Style, and Stigma.—Fig. 4. Fruit, accompanied by the bracteas at its base.

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* Name of doubtful origin. Dr. THORNTON says it is from THESIUS, who is supposed to have put this plant into the crown which he presented to ARIADNE; but Professor BURNETT observes, that our plant cannot be the one to which ATHENÆUS and TIMACHIDES refer, as its obscure flowers, devoid of elegance, would scarcely have caused it to be selected for such a purpose.

† See folio 48, note †.

‡ From its leaves resembling *toad-flax;* hence called by RAY *Linaria adulterina.*

Dorset; Very common on the chalky, and especially the upland Downs. On Hod, and Hambledon Hills; on the Race Down, Pimpern Down; and in Nutford Field, near Blandford: Dr. Pulteney, in B. G. On the East Cliff, in Portland Island: Rev. A. Bloxam.—*Gloucestershire;* Shepscombe Hill, Painswick: Mr. O. Roblnts. Upper Slaughter; and on Northleach Downs, &c.: E. F. Witts, Esq.--*Hants;* Flower Down, near Winchester: Dr. Pulteney. Basingstoke: Dr. Martyn. Brading Downs, Isle of Wight: Mr. J. Woods, jun. Chalk Cliffs on the South side of the Isle of Wight: Dr. Stokes. Near Alresford: Mr. W. Pamplin, jun.--In *Herefordshire:* N. J. Winch, Esq. in N. B. G.—*Norfolk;* Limekiln Hill, near Shouldham: Miss Bell, in N. B. G.—*Suffolk;* On the West side of Bury: Sir J. E. Smith. Chalk-bank near the Plantation of Firs on Risby Heath, &c.: Sir T. G. Cullum.—*Surrey;* South side of the chalk range between Guildford and Dorking: Mr. J. Woods, jun. Coulsdon: E. Wood, in N. B. G. Banstead Downs; between Dorking and Ranmore Common; Box Hill: N. J. Winch, Esq.—*Sussex;* On a hill by the road from Lewes to Falmer; near Portslade, on the hill towards the Devil's Dyke: W. Borrer, Esq. in B. G. On Whitelock Bottom: *New Bot. Guide.*—In *Wiltshire:* W. C. Trevelyan, Esq. in N. B. G.

Perennial.—Flowers in July.

Root woody, branched, yellowish. *Stems* widely spreading, mostly branched, from 3 to 9 inches or more in length, angular, leafy. *Leaves* alternate, strap-shaped, somewhat succulent, rough edged, light green, about an inch long at most, all pointing one way. *Racemes* terminal, many-flowered, upright, generally branched or subdivided. *Pedicels* alternate, upright, single-flowered, with 3 spreading, spear-shaped bracteas under each flower, one of which is much larger than the other two. *Calyx* with a very short tube, and a broadish, white, sharp-toothed border, irregularly notched between the segments. *Stamens* very short, opposite to the segments of the calyx. *Style* upright, the length of the stamens. *Stigma* notched. *Drupa* somewhat egg-shaped, 5-angled, striated, bony, crowned by the inflexed calyx.

Sir J. E. Smith observes, that the varities of Willdenow seem dintinct species; especially *Thesium montanum*, Ehrh. Herb. 2, a much larger, more upright, herb, with compound, more slender, *panicles;* which is Haller's n. 1573, and likewise Gerarde's plant, Johnson's *Gerarde*, p. 555, taken by Ray for the English species.

The *Natural Order* Santalaceæ, consists of *trees* or *shrubs*, sometimes *undershrubs* or *herbaceous* plants; with alternate, or nearly opposite, undivided *leaves*, which are sometimes minute, and resemble *stipulæ*. Their *flowers* are small, solitary, or in spikes, seldom in umbels. Their *calyx* is superior, 4- or 5-cleft, half-coloured, and valvate in the bud. The *stamens*, 4 or 5 in number, are opposite the segments of the calyx, and inserted into their bases. The *ovary* is 1-celled, with from 2 to 4 seeds. The *ovules* are fixed to the top of a central placenta near the summit; the *style* is simple; and the *stigma* often lobed. The *fruit* is 1-seeded, hard and dry, or drupaceous; and the *seed* has an axile embryo in a fleshy *albumen*.

Scirpus maritimus. Salt-marsh Club-rush 4

Mather ... 3Sc Pub.ed by W. Baxter Botanic Garden Oxford 1838

SCI'RPUS *.

Linnean Class and Order. TRIA'NDRIA †, MONOGY'NIA.

Natural Order. CYPERA'CEÆ, *Juss.*—Lindl. Syn. p. 278.; Introd. to Nat. Syst. of Bot. p. 304.—Rich. by Macgilliv. p. 392.—Loud. Hort. Brit. p. 541.—Mack. Fl. Hibern. p. 318.—CYPEROIDEÆ, Juss. Gen. Pl. p. 26.—Sm. Gram. of Bot. p. 63.—CYPERALES; sect. CYPERINÆ; type, SCIRPACEÆ; Burn. Outl. of Bot. v. i. pp. 354, 356, & 357.—CALAMARIÆ, *Linn.*

GEN. CHAR. *Spikes* (fig. 1.) lateral or terminal, of numerous *florets*, all perfect. *Glumes* (fig. 2.) of 1 valve, imbricated on all sides, equal, 1 or 2 of the outer ones sometimes sterile. *Corolla* none. *Filaments* (see figs. 3 & 4.) 3, flat. *Anthers* strap-shaped. *Style* (see figs. 4 & 5.) neither jointed nor dilated at the base, deciduous, leaving only a small mucro. *Stigmas* (see figs. 4 & 5.) 2 or 3, downy. *Seeds* (fig. 6.) with or without rough bristles beneath (see fig. 4.); often pointed.

Distinguished from other glumaceous genera, without a corolla, in the same class and order, by the *glumes* being imbricated on all sides, uniform, concave, and expanded; and by the *style* being simple at the base, and deciduous.

Seven species British.

SCI'RPUS MARI'TIMUS. Sea Club-rush. Salt-marsh Club-rush.

SPEC. CHAR. Stem leafy, triangular. Spikelets terminal, clustered, stalked, and sessile. Involucrum of many foliaceous leaflets. Glumes with a mucro between the pointed segments of the notch (see fig. 2). Stigmas 3.

Engl. Bot. t. 542.—Curt. Fl. Lond. t. 284.—Linn. Sp. Pl. p. 74.—Huds. Fl. Angl. (2nd ed.) p. 21.—Willd. Sp. Pl. v. i. pt. 1. p. 306.—Sm. Fl. Brit. v. i. p. 56.; Engl. Fl. v. i. p. 61.—With. (7th ed.) v. ii. p. 104.—Gray's Nat. Arr. v. ii. p. 76.—Lindl. Syn. p. 281.—Hook. Brit. Fl. p. 21.—Lightf. Fl. Scot. v. i. p. 89.—Purt. Midl. Fl. v. i. p. 64.—Relh. Fl. Cant. (3rd ed.) p. 24.—Hook. Fl. Scot. p. 19.—Grev. Fl. Edin. p. 12.—Rev. G. E. Smith's Pl. of S. Kent, p. 5.—Fl. Devon. pp. 8 & 116.—Johnst. Fl. of Berw. v. i. p. 16.—Winch's Fl. of Northumb. and Durham, p. 4.—Mack. Catal. of Pl. of Irel. p. 11.; Fl. Hib. p. 323.—*Gramen cyperoides palustre, panicula sparsa*, Ray's Syn. p. 425.—*Gramen aquaticum cyperoides vulgatius*, Johnson's Gerarde, p. 22.—*β. Scirpus tuberosus*, Desfont. Atlant. v. i. p. 50.—*Scirpus maritimus*, Fl. Dan. t. 937.—*Cyperus rotundus littorius*, Johns. Gerarde, p. 31.—*Cyperus rotundus littorius inodorus*, Ray's Syn. p. 426.

LOCALITIES.—In salt-marshes, and about the banks of great rivers exposed to the tide; frequent.—*Cambridgesh.* Strethain Ferry; Littleport; Isle of Ely; Westbeach: Rev. R. RELHAN.—*Cornwall;* On the shore near Falmouth: Mr. WATSON, in N. B. G. At Swan Pool, Falmouth: *Supp.* N. B. G.—*Cumber-*

Fig. 1. The Spikes of Florets.—Fig. 2. A Glume.—Fig. 3. A single Floret.—Fig. 4. Stamens and Pistil; accompanied by the bristles at the base of the Germen.—Fig. 5. Germen, Style, and Stigmas.—Fig. 6. A Seed.—Figs. 2, 4, & 5. *magnified.*

* According to THEIS from *cirs*, in Celtic, which makes *cors* in the plural, whence *chorda* in Latin, and *cord* in English; the stems having been formerly employed for making a kind of cordage.

† See folio 56, note †.

land ; Maryport and Allonby: Hutchinson.—*Devon ;* Exe and Clyst rivers near their junction, abundant: *Fl. Devon.—Dorset ;* On the eastern side of the Backwater, near Weymouth. On the Weymouth side, near Portland Ferry: Rev. A. Bloxam.—*Durham ;* On the salt-marshes of Tyne, Wear, and Tees: N. J. Winch, Esq.—*Essex ;* Near Maldon: Mr. Dale, in *Ray's Syn.—Kent ;* In dykes, near or distant from the coast, connected with the sea by tide or inundation. Varieties, in the military canal; on sandy ground near the turnpike on the New Road to Folkstone. In a dyke by the road-side, Dimchurch East. In dykes at New Romney. Between Sandwich and Deal: Rev. G. E. Smith. About Northfleet, abundantly: Mr. W. Pamplin, in N. B. G. Between Plumstead and Erith: J. F. Young, in *Fl. Metr.* In the Isle of Shepey: Mr. W. Curtis.—*Middlesex ;* In the Isle of Dogs: *Fl. Metr.*—Common in *Norfolk.—Northumberland ;* Sea-coast near Beal; and on the salt-marshes of Tyne: N. J. Winch, Esq.—*Somersetsh.* Plentiful in ditches overflowed by the Parret; near Westonzoyland; near Bridgewater and Middlezoy; salt-marshes, Brean Down: J. C. Collins, in N. B. G.—*Staffordsh.* Shirley Wych, near Stafford: Dr. Stokes.—*Surrey ;* Near Battersea: Mr. W. Pamplin, jun.—In *Sussex :* Rev. G. E. Smith.—*Worcestersh.* Marshes and ditches about Badsey: Rev. Mr. Rufford, in *Midl. Fl.*—WALES. In *Anglesea ;* Rev. H. Davies.—*Denbighsh.* On the North Coast: J. E. Bowman, Esq. in N. B. G.—*Merionethsh.* Marshes between Harlech and Barmouth: J. Anderson, in N. B. G.—*Monmouthsh.* Near Pontnewydd Works: Mr. C. Conway, in N. B. G.—SCOTLAND. *Aberdeensh.* In the river Ythan, between Ellon and the sea; in the marsh at the North end of the Old Town Links, Aberdeen: Dr. Murray, in N. B. G.—*Argylesh.* Arran: Mr. Joseph Hooker, in N. B. G.—*Dumbartonsh.* Banks of the Clyde from Dumbarton to Bowling Bay, plentifully: Mr. Hopkirk, in N. B. G.—*Dumfries-shire ;* Loeher: Rev. G. Gordon, in N. B. G.—*Forfarthsh.* On the back sands, near Montrose: Mr. Don.—*Haddingtonsh.* Stream-side near Luffness: Dr. Graham.—*Kincardinesh.* Gourdon in the Mearns: Dr. Murray, in *North. Fl.—Linlithgowsh.* On the coast westward of Queensferry: Mr. Watson, in N. B. G.—*Ross-shire ;* Dingwall: Rev. G. Gordon, ibid. Near Bonar Bridge: *North. Fl.*—IRELAND. Salt-marshes, frequent: Mr. J. T. Mackay.

Perennial.—Flowers in July and August.

Root creeping; in β. knotty or tuberous. *Culm (stem)* upright, from 1 to 3 feet high, striated, leafy, triangular, the angles roughish. *Leaves* strap-shaped, keeled, taper-pointed, dark green, rough at the margin; the lower ones sheathing and alternate, those under the panicle sessile, and very unequal in length. *Spikes* egg-shaped, soft, sessile or stalked, solitary or aggregate; sometimes elongated and cylindrical. *Glumes* membranous, shining, of a dark uniform brown, often minutely downy; notched or torn at the end, with a long intermediate point or awn (see fig. 2). *Seed* somewhat triangular, pointed, shining brown, with from 1 to 5 or 6 rough bristles at its base (see fig. 4).

This is supposed to be the plant known as a very noxious weed in certain valuable pastures bordering the Isle of Thanet, and there denominated *Spurt-grass.* The root creeps powerfully, and palliative remedies are of no avail. The only effective mode of clearing the land is to pare and burn; take a course of crops, and let the *hand* and *fork* assist the plough and harrows. Sinclair. It is said to be much relished by cattle; and Dr. Withering says, that the roots (especially those of variety β.) are esculent, and that when dried and ground to powder, they have been used instead of flour in times of scarcity.

F. Rufsell Del. *Inula Helenium. Elecampane. 4* W. Williams

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I'NULA *.

Linnean Class and Order. SYNGENE'SIA †, POLYGA'MIA, SUPE'RFLUA ‡.

Natural Order. COMPO'SITÆ §; tribe, CORYMBI'FERÆ ||, *Juss.* —Lindl. Syn. pp. 140 & 142.; Introd. to Nat. Syst. of Bot. pp. 197 & 199.—Mack. Fl. Hibern. p. 142.—COMPO'SITÆ; subord. CARDUACEÆ, Loud. Hort. Brit. pp. 520 & 521.—SYNANTHE'REÆ; tribe, CORYMBI'FERÆ, Rich. by Maegill. pp. 454 & 455.—CORYMBIFERÆ, sect. 2. Juss. Gen. Pl. pp. 177 & 180.—Sm. Gram. of Bot. pp. 121 & 123.; Engl. Fl. v. iii. p. 334.—SYRINGALES; sub-order, ASTEROSÆ; sect. ASTERINÆ; subsect. ASTERIANÆ; type, ASTERACEÆ; Burn. Outl. of Bot. pp. 900, 901, 920, 924, & 926.—COMPO'SITÆ, *Linn.*

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) imbricated; scales spreading, outer ones terminated by a leafy appendage. *Corolla* compound, radiant; *florets* of the disk (fig. 2.) numerous, perfect, tubular, with 5 equal segments; *florets* of the ray (fig. 6.) strap-shaped, 3-toothed, yellow. *Filaments* (see figs. 4 & 5.) 5, in the florets of the disk only, thread-shaped. *Anthers* united into a cylindrical tube, with bristles at their base (see fig. 5). *Germen* (see figs. 2 & 3.) in all the florets fertile, oblong. *Style* (see fig. 5.) thread-shaped, cloven. *Stigmas* spreading, oblong, rather obtuse. *Seed-vessel* none, but the unaltered calyx. *Seed* (see fig. 7.) linear, quadrangular. *Pappus* (see fig. 7.) roughish, simple. *Receptacle* (see fig. 8.) naked.

The imbricated *involucrum* of many spreading scales, the outer ones terminated by a leafy appendage; the *anthers* with 2 bristles at their base; the naked *receptacle;* and the simple *pappus;* will distinguish this from other genera, with radiant *flowers*, in the same class and order.

The leaf-like scales of the involucrum will distinguish it from *Limbárda*, and the simple pappus from *Pulicária*, (t. 170).

One species British.

I'NULA HELE'NIUM. Elecampane. Scab-wort. Horse-heal.

SPEC. CHAR. Leaves clasping the stem, egg-shaped, somewhat toothed, wrinkled, downy beneath. Scales of the involucrum egg-shaped, downy.

Engl. Bot. t. 1546.—Woodv. Med. Bot. v. ii. p. 297. t. 108.—Steph. and Church. Med. Bot. v. ii. t. 49.—Linn. Sp. Pl. p. 1236.—Hudv. Fl. Angl. (2nd ed.) p. 368.—Willd. Sp. Pl. v. iii. pt. iii. p. 2089.—Sm. Fl. Brit. v. ii. p. 891.; Engl. Fl. v. iii. p. 440.—With. (7th ed.) v. iii. p. 944.—Lindl. Syn. p. 143.—Hook. Brit. Fl. p. 552.—Lightf. Fl. Scot. v. i. p. 484.—Sibth. Fl. Oxon. p. 255.—Abbot's Fl. Bedf. p. 183.—Davies' Welsh Bot. p. 79.—Purt. Midl. Fl. v. ii. p. 410.—Relh. Fl. Cant. (3rd ed.) p. 345.—Hook. Fl. Scot. p. 245.—Fl. Devon. pp. 139 & 160.—Winch's Fl. of Northumb. and Durham, p. 51.—Walker's Fl. Oxf. p. 243.—Perry's Pl.

Fig. 1. Involucrum.—Fig. 2. A Floret of the Disk.—Fig. 3. The Germen, Stamens, Style, and Stigmas of ditto.—Fig. 4. A single Stamen.—Fig. 5. The same magnified.—Fig. 6. A Floret of the Ray.—Fig. 7. A Seed, with its Pappus.—Fig. 8. A vertical section of the Involucrum and Receptacle.

* Said to be the same as *Helenium*, having sprung from the tears of HELEN. Sir W. J. HOOKER.

† See fol. 91. n. *. ‡ See fol. 36. n. ‡. § See fol. 27, *a*. || See fol. 36, *a*.

Varvic. Selectæ, p. 71.—Bab. Fl. Bath. p. 26.—Mack. Catal. of Pl. of Irel. p. 74. ; Fl. Hibern. p. 143.—*Inula grandiflóra*, Gray's Nat. Arr. v. ii. p. 463.—*Helenium*, Ray's Syn. p. 176.—Johnson's Gerarde, p. 793.

Localities.—In moist meadows and pastures ; rare.—*Oxfordshire ;* Stanton St. John's: Dr. Sibthorp. Fields on the right hand side of the new road going from Oxford to Ensham, about three miles from Oxford ; and in a meadow near the Plough Public-House, Horton: Rev. Richard Walker, B. D. Magdalen Coll.—*Bedfordsh.* Ravensden, and Stevington: Rev. C. Abbot.—*Cambridgesh.* Moor Barns ; Madingley, in a close near the road leading to Drayton ; Eversden Wood ; and Lolworth, in a close N. W. of the church: Rev. R. Relhan.—*Cheshire ;* Abnut old Farm Houses: Mr. Bradbury.—*Cornwall ;* Gulval ; St. Ives ; St. Michael's Mount ; St. Mary's ; and Scilly Isles: Rev. W. T. Bree, in M. N. H. v. iv. p. 162.—*Devon ;* Orchards at Rosa near Ilsington, and at Christowe : *Fl. Devon.—Dorsetsh.* In the Vale of Blackmoor in many places, as Hasilbury, Sturminster Newton ; St. Margaret's Marsh, and Langton near Blandford: Dr. Pulteney.—*Durham ;* In Castle Eden Dene, on the N. side, about a mile from the sea ; and in many places by the River Tees: *Fl. North. & Durh.—Essex ;* Hedge by the road-side at Loughton ; lane from the Bald-faced Stag on Epping Forest to Chigwell Church ; near a Farm House at Muncombe near Woodford : Mr. E. Forster, jun.—*Gloucestersh.* Near Wick Cliffs: Mr. Swayne. On the banks of the Boyd, about a quarter of a mile above its mouth ; Bittnn Meadows, in large and long established patches: Rev. H. T. Ellicombe.—*Hants ;* Waste places about Freshwater, and elsewhere in the Isle of Wight: Waring. Road-side between Alresford and Basingstoke, near Preston Candover: Mr. W. Pamplin, jun.—*Herefordsh.* near Richard's Castle: Dr. Lloyd.—*Huntingdonsh.* About Ripton and Warboys.—*Lancash.* About Yealand: Robson. Several places near Dalton: Mr. Atkinson.—*Middlesex ;* In a meadow at Breakspears, called Gantlets ; and in a close adjoining the Commnn at Harefield : Blackstone.—*Norfolk ;* In several parts of the county: Mr. R. Forby.—*Northamptonsh.* In the home closes at Rance ; and in the grounds near the church at Newton Broomshold : Morton.—*Shropsh.* Near Llanymenech ; twn miles from Bishops Castle on the Montgomery road ; Marlow near Ludlow : Mr. A. Aikin.—*Somersetsh.* Near Yeovil: *M. N. Hist.* Pastures at Hinton Abbey, near the Fish-ponds: Mr. Sale.—*Staffordsh.* Himley Wood: Rev. W. T. Bree.—*Suffolk ;* At Mettingham: Mr. Woodward. Parham, the Hall Farm ; Ufford: Rev. G. Crabbe. Sibton, Bramfield, and Heveningham: Mr. Davy.—*Warwicksh.* Studley, in the Castle Field ; and at Grafton : T. Purton, Esq.—*Wilts ;* River-side near Bemerton : Dr. Maton. Lower Whitacre: Rev. W. T. Bree.—*Worcestersh.* In great abundance on the side of Breedon Hill, in the ascent from Great Comberton : Nash. Between Worcester and Ludlow ; and near Stanford Bridge : *Illust.—Yorksh.* In Mowthorpe Dale : Teesdale. Byland Wood near Coxwold : Rev. Archdeacon Pierson. Near Copgrove, and Newby : Rev. J. Dalton. Pastures above Fountains Abbey : Mr. Brunton. On low land near the River Don, about six miles from Doncaster: S. Appleby. Hayburn Wyke, near Scarborough: Rev. A. Bloxam, and E. F. Witts, Esq.—In WALES ; SCOTLAND ; and IRELAND ; but rare.

Perennial.—Flowers in July and August.

Root thick, branching, brown, aromatic, and mucilaginous. *Stem* from 3 to 5 feet high, upright, leafy, round, furrowed, downy ; branched towards the top. Lower *leaves* large, stalked, spear-shaped ; upper *leaves* egg-spear-shaped, sessile, clasping the stem, serrated, veiny, deep green, slightly hairy above ; whitish-green, and downy underneath. *Flowers* large, solitary, terminating the stem and branches. Scales of the *involucrum* broad, recurved, leafy, finely downy on both sides. *Florets* all yellow ; those of the ray long and narrow, each terminating in 3 unequal teeth. *Seed* quadrangular, smooth. *Pappus* roughish. *Receptacle* reticulated, not quite smooth or naked.

This is the *Elecampane* of the shops ; the root is esteemed a good pectoral ; and the scab in sheep is cured by a decoction of it. Bruised and macerated in urine with balls of ashes and wortle-berries, it dyes a fine blue colour. An infusinn of the fresh root, sweetened with honey, is considered an excellent medicine in the hooping cough. Horses and goats eat this plant ; cows, sheep, and swine refuse it.

Pedicularis Sylvatica. Pasture Louse-wort. 2.

C. Matthews Del. & Sc. Pub.d by W. Baxter Botanic Garden Oxford. 1838.

PEDICULA'RIS *.

Linnean Class and Order. DIDYNA'MIA †, ANGIOSPE'RMIA ‡.

Natural Order. SCROPHULARI'NEÆ §, *Dr. R. Brown.*—Lindl. Syn. p. 187.; Introd. to Nat. Syst. of Bot. p. 228.—Mack. Fl. Hib. p. 198.—SCROPHULA'RINÆ, Rich. by Macgilliv. p. 434.—Sm. Engl. Fl. v. iii. p. 115.—Loud. Hort. Brit. p. 528.—PEDICULARES, Juss. Gen. Pl. p. 99.—Sm. Gram. of Bot. p. 96.—SYRINGALES; subord. PRIMULOSÆ; sect. MENTHINÆ; type, SCROPHULARIACEÆ; Burn. Outl. of Bot. v. ii. pp. 900, 958, & 978.—PERSONATÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, inflated, generally 5-cleft, or unequally 2- or 3-lobed, somewhat leafy. *Corolla* (fig. 2.) of 1 petal, ringent, tubular, 2-lipped; upper lip long, compressed, arched, often notched; lower lip flat, spreading, 3-lobed. *Nectary*, a gland under the germen. *Filaments* (fig. 3.) 4, thread-shaped, concealed by the upper lip of the corolla. *Anthers* incumbent, 2-lobed, acute at the lower part, compressed. *Germen* (see fig. 5.) egg-shaped. *Style* (see fig. 5.) thread-shaped, longer than the stamens. *Stigma* simple, deflexed. *Capsule* (fig. 6.) oblong, or egg-shaped, pointed, oblique, of 2 cells and 2 valves, bursting at the summit, the partitions from the centre of each valve. *Seeds* (see figs. 7 & 8.) few, angular, pointed, attached to a roundish *receptacle (placenta)* at the base between the partitions.

The inflated, generally 5-cleft, or unequally 2- or 3-lobed *calyx;* the compressed upper lip of the ringent *corolla;* the 2-celled *capsule;* and the angular, pointed *seeds;* will distinguish this from other genera in the same class and order.

Two species British.

PEDICULA'RIS SYLVA'TICA. Wood Lousewort. Pasture Lousewort. Dwarf Red Rattle. Rattle Grass.

SPEC. CHAR. Stem much branched at the bottom, simple above, spreading. Calyx oblong, angular, smooth, in 5 unequal, crenate, and almost leafy segments.

Engl. Bot. t. 400.—Curt. Brit. Entomol. v. x. t. 451.—Linn. Sp. Pl. p. 845.—Huds. Fl. Angl. (2nd ed.) p. 271.—Willd. Sp. Pl. v. iii. pt. 1. p. 203.—Sm. Fl. Brit. v. ii. p. 656.; Engl. Fl. v. iii. p. 129.—With. (7th ed.) v. iii. p. 732.—Lindl. Syn. p. 190.—Hook. Brit. Fl. p. 286.—Lightf. Fl. Scot. v. i. p. 327.—Sibth. Fl. Oxon. p. 194.—Abbot's Fl. Bedf. p. 136.—Davies' Welsh Bot. p. 60.—Purt. Midl. Fl. v. i. p. 290.—Relh. Fl. Cant. (3rd edit.) p. 252.—Hook. Fl. Scot. p. 188.—Grev. Fl. Edin. p. 136.—Fl. Devon. pp. 104 & 147.—Johnst. Fl. of Berw. v. i. p. 137.—Winch's Fl. of Northumberl. & Durham, p. 41.—Walker's Fl. of Oxf. p. 176.—Jacob's West Devon & Cornwall Flora.—Bab. Fl. Bath, p. 36.—Mack. Catal. of Pl. of Irel. p. 56.; Fl. Hibern. p. 201.—*Pediculáris pratensis rubra vulgaris*, Ray's Syn. p. *284.—*Pedicularis*, Johnson's Ger. p. 1071.—*Pediculária sylvatica*, Gray's Nat. Arr. v. ii. p. 312.

LOCALITIES.—Moist pastures, and on heaths; frequent.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Stamens and Pistil.—Fig. 4. A Stamen magnified.—Fig. 5. Germen, Style, and Stigma.—Fig. 6. Capsule.—Fig. 7. A transverse section of ditto.—Fig. 8. A Seed.

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* From *pediculus*, a *louse*; from its imaginary property of infesting sheep with such vermin. WITHERING.

† See folio 31, note †. ‡ See folio 72, note ‡. § See folio 50, a.

Perennial?—Flowers in June and July.

Root tapering, fleshy, subdivided. *Stem* very short, branches from the root, from 3 to 6 inches long, decumbent, simple, angular, leafy. *Leaves* alternate, doubly pinnatifid and notched: those from the root egg-shaped, undivided, crenate, recurved. *Flowers* axillary, mostly towards the summit of the branches. *Calyx* oblong, tubular, with 4 larger angles, and as many intermediate smaller ones; the margin irregularly 5-cleft, the segments crenate, and often leafy. *Corolla* of a uniform rose colour, rather large and showy, much more slender than the calyx; tube compressed; upper lip with a little tooth on each side; lower lip 3-lobed, the middle lobe rather the smallest. *Filaments* thread-shaped, the two longer ones hairy towards the top. *Capsule* smooth, involved in the calyx. *Seeds* roundish, compressed, with a membranous border.

This is a very pretty little plant, and is found wild, in moist pastures and heaths, and also in woods, not only in Britain, but in many other parts of Europe, and also in Siberia. It occurs sometimes with a white flower; and a very singular variety was found in 1808, near Dunrobin Castle, in Sutherland, North Britain, by the MARQUIS of STAFFORD, with a solitary flower, which, instead of its proper ringent form, with 2 long and 2 shorter stamens, had a salver-shaped regular corolla, with 6 stamens, 4 of which were longer than the other 2. Sir W. J. HOOKER, and W. BORRER, Esq. found one resembling it in the same place in 1809. See *Trans. of Linn. Soc.* v. x. p. 227.

The expressed juice, or a decoction of this plant, has been used with advantage as an injection for sinuous ulcers. It is said, that if the healthiest flock of sheep be fed with it, they become scabby and scurfy in a short time; the wool will become loose, and they will be over-run with vermin. If this effect really follows, it is more probably owing to the poverty of the soil where the plants grow, than to any particular quality in the plants themselves. See WITHERING'S *Bot. Arr.* and LIGHTFOOT'S *Fl. Scot.*

"FLOWERS, lovely flowers! ye are to me
Most dear and precious things;
Nature's soft pencil over ye
Its brightest colouring flings.
Ye seem to me, though blooming here,
Bright beings of another sphere.—

A fairy band! apart, alone,
A bright and beauteous race!
Blooming wherever ye are sown,
And sown in every place:
Filling the air with fragrancy,
Wherever ye may smiling be.

Brightening alike the cultured scene,
And the untrodden rock;
Blooming the lava's paths between,
Braving the thunder-shock;
Glowing, unscard, beneath the sun,
Unchilled within the forest lone."

MARY ANN BROWNE.

I. Rufsell. Del.

Crithmum maritimum. Samphire. 4

Published by W. Baxter Botanic Garden Oxford 1834

CRI'THMUM*.

Linnean Class and Order. PENTA'NDRIA†, DIGY'NIA.

Natural Order. UMBELLI'FERÆ, Juss. Gen. Pl. p. 218.—Sm. Gram. of Bot. p. 132.—Lindl. Syn. p. 111.; Introd. to Nat. Syst. of Bot. p. 4.—Rich. by Macgilliv. p. 463.—Loud. Hort. Brit. p. 517.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 235.—Hook. Fl. Hibern. p. 113.—UMBELLATÆ, *Linn.*—ROSALES; sect. ANGELICINÆ; type, ANGELICACEÆ; subtype, ANGELICIDÆ; Burn. Outl. of Bot. v. ii. pp. 614, 770, 773, & 774.

GEN. CHAR. *Flowers* (see figs. 1 & 2.) all regular, perfect, and prolific. *Calyx* an obsolete margin. *Corolla* (see figs. 1 & 2.) of 5, equal, elliptical, pointed, entire petals, incurved at the apex, broad at the base. *Filaments* (see figs. 1, 2, & 3.) 5, thread-shaped, spreading, as long as the corolla. *Anthers* roundish. *Germen* (see fig. 2.) inferior, elliptical, furrowed. *Styles* (see fig. 1.) very short and thick, each finally a little recurved (see fig. 4), but never equalling in length its large, tumid, somewhat pyramidal base. *Stigmas* blunt. *Floral Receptacle* none. *Fruit* (fig. 4.) nearly round, of 2 carpels. *Carpels* (see figs. 5 & 6.) with 5 elevated, sharp, somewhat winged *ridges*, of which the lateral ones are a little broader and marginal. *Seed* half round, forming a loose kernel, covered with numerous *vittæ*. *Universal* and *partial Involucrum* many-leaved. *Pericarpium* spongy, cellular. *Flowers* greenish-white.

The perfect *umbels*; obsolete *calyx*; elliptic, entire, involute *petals*; nearly round *fruit*; the *carpels* with 5 elevated, sharp, somewhat winged ridges, of which the lateral ones are rather the broadest and marginal; and the half round, loose *seed*, covered with numerous *vittæ*; will distinguish this from other genera in the same class and order.

One species British.

CRI'THMUM MARI'TIMUM. Sea Samphire‡. Rock Samphire.

SPEC. CHAR. Leaflets strap-spear-shaped, fleshy. Leaves of the involucrum egg-shaped.

Engl. Bot. t. 819.—Jacq. Hort. Vind. v. ii. p. 68. t. 187.—Linn. Sp. Pl. p. 354.—Huds. Fl. Angl. (2nd ed.) p. 117.—Willd. Sp. Pl. v. i. pt. ii. p. 1408.—Sm. Fl. Brit. v. i. p. 305.; Engl. Fl. v. ii. p 73.—With. (7th ed.) v. ii. p. 374.—Gray's Nat. Arr. v. ii. p. 510.—Lindl. Syn p. 118.—Hook. Brit. Fl. p. 120.—Light. Fl. Scot. v. i. p. 158.—Davies' Welsh Bot. p. 28.—Hook. Fl. Scot. p. 89.—Grev. Fl. Edin. p. 62.—Rev. G. E. Smith's Pl. of S. Kent, p. 17.—Fl. Devon. pp. 49 & 166.—Winch's Fl. of Northumb. and Durham, p. 19.—Loudon's Encycl. of Gard. (new ed.) p. 880. parag. 4684.—Don's Gen. Syst. of Gard. & Bot. v. iii. p. 321.—Mack. Catal. of Pl. of Irel. p. 28.; Fl. Hibern p. 117.—*Crithmum marinum*, Ray's Syn. p. 217.—Johnson's Gerarde, p. 533.

LOCALITIES.—Rocks and cliffs by the sea side.—*Cornwall*; Cliffs on the coast about Penzance; the Logan stone; Lizard, &c.: Mr. H. C. WATSON, in N. B. G.—*Cumberland*; Rocks by the sea-side South of Whitehaven: N. J. WINCH, Esq.—*Devon*; Along the cliffs, both of the northern and southern

Fig. 1. Front view of a Flower.—Fig. 2. Side view of ditto.—Fig. 3. A single Stamen.—Fig. 4. Fruit.—Fig. 5. Transverse section of ditto.—Fig. 6. Transverse section of a Carpel.—Figs. 1, 2, & 3, *magnified*.

* From *krithe*. Gr. *barley*; from a fancied resemblance between the fruit of this plant and a grain of barley. Sir W. J. HOOKER. † See folio 48, note †.

‡ A corruption from *sampier*, and this again a corruption from the French name *Saint Pierre*. LOUDON.

coasts, abundant. Teignmouth, Torbay, Plymouth, Lundy Island, Upcombe, Rocks of Babicombe Bay, &c.; Rev. Pike Jones.—*Dorset;* In the crevices of the cliffs in Portland, and on the Purbeck coast, especially about Tineham, whence great quantities are collected for pickling: Dr. Pulteney. On the Chesil Beach between the Ferry and Portland: Rev. A. Bloxam.—*Gloucestershire;* Clevedon: Miss Worsley, in N. B. G.—*Hants;* On the Chalk Cliffs near the Needles, Isle of Wight: Dr. Stokes. Isle of Wight: Mr. W. Pamplin, jun. Abundant on the cliffs at Freshwater: Mr. E. Lees.—*Kent;* Upon chalk cliffs, Lydden Spout, S. Kent: Rev. G. E. Smith. On the cliffs of the South Foreland, and Hay Cliff, near Dover, rendered classical ground by the sublime description of Shakspeare*: Dr. Withering.—*Lancash.* On the rocks at Dunnerholme, and above Cartmell Wells, on the sea shore, growing out of the crevices of the rocks, and difficult to reach: Mr. Atkinson.—*Norfolk;* Abundant about Mundesley? see *New Bot. Guide.*—*Northumberland;* On the sea rocks near Alemouth, plentiful: Wallis. I could not find it there, nor did I ever hear of its being gathered on our coast: N. J. Winch, Esq. in *Flora of Northumb. & Durh.*—*Somersetsh.* On the Holmes Islands, in the Severn: Dr. Withering. Abundant at Brean Down, Clevedon, and Burnham: J. C. Collins, in N. B. G.—In *Sussex:* Rev. G. E. Smith, ibid.—WALES. In *Anglesey:* Rev. H. Davies.—*Merionethsh.* Barmouth: *Mag. Nat. Hist.*—SCOTLAND. *Ayrshire;* Culzean: Sir W. J. Hooker, in *Br. Fl.*—*Edinburghshire;* Islands in the Firth of Forth; not found in the present day: Dr. Greville.—*Haddingtonsh.* At Aberlady: Mr. J. Ferme, in *Br. Fl.*—*Kirkcudbrightshire;* On rocks along the coast, from Balmae to Balcarry; also at Rosshill: G. N. Lloyd, in N. B. G.—*Wigtonshire;* Near the Point of Mull, on the W. side: Mr. G. Macnab, in N. B. G. Kirkmaiden; between Mull and Kirkpatrick: Rev. J. Lightfoot.—*Isle of Man;* On the Greywacke, scarce: Mr. Forbes, in N. B. G.—IRELAND. Plentiful on Killiney Hill; Howth; Lambay; and Ireland's Eye: Mr. J. T. Mackay. On the southern coast: Mr. J. Drummond. Near Coolum, Waterford: Countess of Carrick.

Perennial.—Flowers in August.

Root branched, creeping extensively. *Stems* from 6 to 12 inches high, ascending, round, leafy, not much branched. *Leaves* twice or thrice ternate, on sheathing footstalks; *Leaflets* entire, strap-spear-shaped, uniform, smooth, glaucous. *Umbels* rather crowded; the rays short. General and partial *involucrums* of small, egg-spear-shaped leaves; the former mostly of 5, the latter of 7. *Petals* entire, broad at the base, inflexed at the apex; yellowish or greenish-white. *Fruit* oval, spongy.

Whole plant glaucous, and very succulent. It forms an excellent pickle, and a frequent addition to salads. It is sold in the London shops; but there are many plants preferred for the same purpose, as *salicórnia herbácea*, *Limbárda (Inula) crithmoides*, &c. In taste, it is crisp and aromatic, and constitutes a light and wholesome condiment. It is generally gathered in places where it is found wild; but a successful method of cultivating it is given in *The Transact. of the Hortical. Society of London*, v. ii. p. 232; in Mr. Loudon's *Encyclop. of Gardening*, (ed. 1835.) p. 881. parag. 4686; and in Mr. G. Don's *General System of Gard. & Bot.* v. iii. p. 321.—The plant is sometimes used in medicine.

The drawing for the accompanying plate was made from a specimen which was kindly communicated to me by the Countess of Carrick, from the vicinity of Coolum, Waterford, Ireland. August, 1837.

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* "Come on, sir; here's the place:—stand still.—How fearful
And dizzy 'tis, to cast one's eyes so low!
The crows, and choughs (daws), that wing the midway air,
Show scarce so gross as beetles: Half way down
Hangs one that gathers *samphire;* dreadful trade!
Methinks, he seems no bigger than his head."
King Lear, Act 1. Scene 6.

Schoenus nigricans. Black Bog-rush. 4

C. Mathews Del. & Lt. Pub.d by W. Baxter Botanic Garden Oxford. 1838.

SCHŒ'NUS *.

Linnean Class and Order. TRIA'NDRIA†, MONOGY'NIA.

Natural Order. CYPERA'CEÆ, *Juss.*—Lindl. Syn. p. 278.; Introd. to Nat. Syst. of Bot. p. 304.—Rich. by Macgilliv. p. 392.—Loud. Hort. Brit. p. 541.—Mack. Fl. Hibern. p. 318.—CYPEROIDEÆ, Juss. Gen. Pl. p. 26.—Sm. Gr. of Bot. p. 68.—CYPERALES; sect. CYPERINÆ; type, PAPYRACEÆ; Burn. Outl. of Bot. v. i. pp. 354 & 356.—CALAMARIÆ, *Linn.*

GEN. CHAR. *Spikelets* terminal, 2-ranked, of 1 to 3 florets, (see fig. 1). *Raehis* nearly straight. Lower *glumes* smaller than the rest and empty. *Corolla* none. *Filaments* (see fig. 2.) 3, hair-like, longer than the glumes (fig. 1.). *Anthers* strap-shaped, upright. *Germen* (see fig. 3.) superior, roundish, more or less triangular. *Hypogynous Bristles* very small or none. *Style* (see fig. 3.) thread-shaped, simple, deciduous. *Stigmas* 3, pointed, feathery. *Fruit* 3-cornered, either pointless, or with a very little point.

The 2-ranked, 1 to 3-flowered *spikelets;* the outer *glumes* smaller than the rest and empty; the simple, trifid, deciduous *style;* and the nearly or quite pointless *fruit;* will distinguish this from other genera, destitute of a *corolla*, in the same class and order.

One species British.

SCHŒ'NUS NIGRI'CANS. Black Bog-rush.

SPEC. CHAR. Stem rounded, naked. Spikelets collected into a rounded head. Involucrum 2-leaved, outer one awl-shaped, longer than the flowers.

Engl. Bot. t. 1121.—Linn. Sp. Pl. p. 64.—Huds. Fl. Angl. (2nd ed.) p. 15.—Willd. Sp. Pl. v. i. p. 1. p. 261.—Sm. Fl. Brit. v. i. p. 43.; Engl. Fl. v. i. p. 51.—With. (7th ed.) v. ii. p. 107.—Gray's Nat. Arr. v. ii. p. 73.—Lindl. Syn. (1st ed.) p. 230.; 2nd edit. pp. 280 & 332.—Hook Brit. Fl. p. 19.—Lightf. Fl. Scot. v. i. p. 86.—Sibth. Fl. Oxon. p. 22.—Abbot's Fl. Bedf. p. 9.—Davies' Welsh. Bot. p. 6.—Relh. Fl. Cant. (3rd ed.) p. 20.—Hook. Fl. Scot. p. 16.—Grev. Fl. Edin. p. 9.—Fl. Devon. pp. 7 & 115.—Johnst. Fl. of Berw. v. i. p. 14.—Winch's Fl. of Northumb. & Durham, p. 3.—Walker's Fl. of Oxf. p. 12.—Perry's Pl. Varv. Selectæ, p. 5.—Mack. Catal. of Pl. of Inel. p. 10.; Fl. Hibern. p. 320.—*Cyperus nigricans*, With. (2nd ed.) v. i. p. 44.—Punt. Midl. Fl. v. i. p. 62.—*Juncus lævis minor panicula glomerata nigricante*, Ray's Syn. p. 430.

LOCALITIES.—On moors, and tufty bogs; frequent.—*Oxfordshire;* Bogs under Headington-Wick Copse: Dr. SIBTHORP. Plentiful in the same place, 1831: W. B.—*Berks;* Near Newbury: Mr. BICHENO.—*Beds.* Ampthill Moor, and Potton Marshes: Rev. C. ABBOT.—*Cambridgeshire;* Teversham, and Sawston Moors: Rev. R. RELHAN.—*Cornwall;* On the heath by Kynance Cove: Mr. WATSON, in N. B. G.—*Cumberland;* In bogs on the Gillsland Moors: N. J. WINCH, Esq. in N. B. G.—In *Derbyshire:* Dr. HOWITT, in N. B. G.—*Devon;* Bovey Heathfield; Woodberry Hill; Moors near Clovelly: Dr. WAVELL.—*Dorset;* In Purbeck, and on Canford and Wareham Heaths: Dr. PULTENEY.—*Durham;* In bogs near Hartlepool, to the S. E. of Coatham near Darlington; and near Murton Moor: N. J. WINCH, Esq. Near Norton:

Fig. 1. A single Floret.—Fig. 2. A Floret, divested of the glume, showing the stamens and pistil.—Fig. 3. Germen, Style, and Stigmas.

* From *schoinos*, Gr. *a cord;* because a kind of cordage was anciently made from plants of this tribe. HOOKER.

† See folio 56, note †.

John Hogg, Esq.—*Essex ;* In the fens of Tilbury Fort: Mr. Milne.—*Hampshire ;* Townhill Common: N. J. Winch, Esq.—*Norfolk ;* Horning: J. Paget, in N. B. G. Ormesley Common, abundant: *Hist. Yarm.* Dereham, and Ellingham: S. P. Woodward, in N. B. G.—Royden Fen: Rev. A. Bloxam, ibid.—*Northumberland ;* On the heath at Prestwick Carr: N. J. Winch, Esq. On moors and boggy places near Berwick, frequent: Dr. G. Johnston. On Learmouth Bog: N. J. Winch, Esq.—*Notts ;* Basford Scottum; Edingley Moor; Bullwell and Popplewick Forests; Pleasley and Fountain Dale Bogs: Dr. Howitt, in N. B. G.—*Suffolk ;* Near Bungay: Mr. D. Stock, in N. B. G. —*Surrey ;* On Bagshot Heath: N. J. Winch, Esq. ibid.—*Warwickshire ;* Coleshill Bog: T. Purton, Esq. Boggy meadows by the Thames, under Dort's Hill, near Middleton: *Ray's Catal.*—*Worcestersh.* Freckenham Moors: T. Purton, Esq.—*Yorkshire ;* On the red marl, near Richmond: Mr. Ward, in N. B. G. Fields half way between Preston and Swindon: N. J. Winch, Esq. ibid.—WALES. *Anglesey ;* By the Menai Bridge: N. J. Winch, Esq.—In *Carnarvonshire ;* J. E. Bowman, in N. B. G —SCOTLAND. *Aberdeensh.* About seven miles from Aberdeen, in a swamp upon the East side of the road to Udny, near the dark serpentine rocks: Dr. Murray, ibid.—*Argyleshire ;* Bute: J. Hooker, Esq. Locheil Moors, at about 400 yards above Loch Eil; the highest station in which I have observed it: Mr. Watson, in N. B. G.— *Fifeshire ;* Bog near Anstruther: Dr. Graham.—*Forfarshire ;* Wet ground adjacent to Montrose: Dr. Murray, in N. B. G.—*Ross-shire ;* Black Isle: Dr. Murray, ibid.—*Sutherland ;* Moor near Farr: Mr. Watson. Banks of Loch Shin, and not uncommon on the West side of the county: Dr. Murray, in N. B. G.—IRELAND. Plentiful at Portmarnock Sands, and between Baldoyle and Howth, &c. In Cunnamara, where it is very abundant; it is well known by the name of *Black Keil:* Mr. J. T. Mackay.

Perennial.—Flowers in June and July.

Root of strong fibres, crowned with black, shining, upright scales or sheaths, remnants of old leaves. *Culms (stems)* about a foot high, simple, firm, and rigid, sheathed at the base by the remains of the old leaves. *Leaves* bristle-like, acute, rigid, upright, convex beneath, sheathing, shorter than the culms. *Head of Flowers* somewhat egg-shaped, formed of several dark purplish, black, or brown spikelets. *Involucrum* of 2 leaves; inner one small and membranaceous; outer one awl-shaped, longer than the flowers. *Anthers* long, prominent, yellow. *Style* jointed above the germen and darker than it. *Stigmas* 3, dark purple. "Bristles small (see fig. 2.), reddish-brown, spiny, the spines pointing upwards; attached to the receptacle, as Smith observes, but certainly placed on the outside of the filaments,—which is the case also in various species of *Scirpus*, and, as I am inclined to believe, in all cases where bristles are to be found at all." (Mr. Wilson, in *Brit. Fl.*) *Fruit* white and polished.

"Where'er I cast my wand'ring eyes around,
The God I seek, in every object's found:
Pursuing Thee, the verdant fields I pass,
And read Thy name in every blade of grass;
Beauty complete, and majesty divine,
In all Thy works, ador'd Creator! shine."

Mrs. Rowe.

Sanguisorba officinalis Great-Burnet 4

Published by W Baxter Botanic [illegible] 1837

SANGUISO'RBA*.

Linnean Class and Order. TETRA'NDRIA, MONOGY'NIA.

Natural Order. ROSA'CEÆ; sect. SANGUISORBEÆ; Juss. Gen. Pl. pp. 334 & 336.—Sm. Gram. of Bot. pp. 171 & 172.—Lindl. Syn. pp. 88 & 102.—Rich. by Macgilliv. pp. 528 & 530.—Loud. Hort. Brit. p. 512.—Mack. Fl. Hibern. pp. 85 & 105.—SANGUISORBEÆ, Lindl. Introd. to Nat. Syst. of Bot. p. 80.—Don's Gen. Syst. of Gard. & Bot. v. ii. p. 589.—ROSALES; sect. ROSINÆ; subsect. ROSIANÆ; type, SANGUISORBACEÆ; Burn. Outl. of Bot. pp. 614, 683, 699, & 707.—SENTICOSÆ, *Linn.*

GEN. CHAR. *Calyx* (see fig. 2, *b.*) superior, of 1 sepal, in 4 deep, equal, egg-shaped, spreading, coloured lobes; with 2 or 4 external *scales* or *bracteas* (fig. 2, *a.*) at the base. *Corolla* none. *Filaments* (see fig. 2, *c.*) 4, from the base of the calyx, opposite to its lobes, and about as long, dilated upwards, smooth. *Anthers* roundish, of 2 cells. *Germens* (see figs. 4 & 5.) inferior, quadrangular. *Style* (see figs. 2 & 5.) thread-shaped, nearly as long as the stamens. *Stigma* notched. *Fruit* (fig. 5.) quadrangular, hard, not bursting, of 1 cell, containing 1 or 2 *seeds*.

The superior, 4-lobed, coloured *calyx;* with 2 or 4 *bracteas* at the base; and the quadrangular, 1- or 2-seeded, indehiscent *fruit*, surrounded by the permanent base only of the calyx; will distinguish this from other genera, destitute of a corolla, in the same class and order.

Two species British.

SANGUISO'RBA OFFICINA'LIS. Officinal Great Burnet. Wild Burnet. Burnet Bloodwort.

SPEC. CHAR. Plant smooth. Spikes egg-shaped. Stamens about as long as the calyx.

Engl. Bot. t. 1312.—Mart. Fl. Rust. t. 142.—Curt. Brit. Entom. v. xi. t. 493.—Linn. Sp. Pl. p. 169.—Huds. Fl. Angl. (2nd ed.) p. 65.—Willd. Sp. Pl. v. i. pt. 1. p. 653.—Sm. Fl. Brit. v. i. p. 186.; Engl. Fl. v. i. p. 218.—With. (7th ed.) v. ii. p. 235.—Gray's Nat. Arr. v. ii. p. 575.—Lindl. Syn. p. 103.—Hook. Brit. Fl. p. 71.—Lightf. Fl. Scot. v. i. p. 119.—Sibth. Fl. Oxon. p. 57.—Abb. Fl. Bedf. p. 31.—Purt. Midl. Fl. v. i. p. 93.—Relh. Fl. Cant. (3rd ed.) p. 64.—Hook. Fl. Scot. p. 54.—Fl. Devon. pp. 29 & 173.—Winch's Fl. of Northumb. and Durham, p. 10.—Walker's Fl. of Oxf. p. 41.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 591, with a figure.—Perry's Pl. Varvic. Selectæ, p. 13.—*Sanguisórba major, flore spadiceo*, Ray's Syn. p. 203.—*Pimpinella sylvestris*, Johnson's Gerarde, p. 1045.

LOCALITIES.—Low moist meadows and pastures, on a calcareous soil, chiefly in the North of England; more rare in Scotland.—*Oxfordsh.* Iffley, Cowley, and Binsey: Dr. SIBTHORP. Near Oddington: W. B.—*Berks;* Ditches about Greenham Mill, near Newbury: Mr. BICHENO. In Cumnor Meadow, abundant: W. B.—*Beds.* Brimham, Fenlake, and Cow Meadows: Rev. C. ABBOT.—*Cambridgesh.* King's Hedges, Whitwell, Ditton, Shelford, Long Stanton, Cottenham, &c.: Rev. R. RELHAN. In a plantation by the great watercourse on

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Fig. 1. A single Flower.—Fig. 2. Same magnified. *a.* the Bracteas; *b.* the Calyx; *c.* the Stamens.—Fig. 3. A single Stamen.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. The Fruit, *a little magnified.*

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* From *sanguis, blood;* and *sorbeo, to take up*, or *absorb;* from the supposed vulnerary properties of the plant. Sir W. J. HOOKER.

† See folio 16, note †.

Fulbourn Moor: *New Bot. Guide.*—*Cheshire;* Fields by the road, between Disley and Whaley Bridge; dry meadows near the New Bridge at Stockport: Mr. G. Holme.—*Cornwall;* Goonhilly Downs: Mr. W. Allen. At Kedgworth: Rev. J. P. Jones.—*Cumberland;* Common in fields: *Otley's Guide.*—*Derbysh.* Common in moist pastures: Mr. Pilkington. About Matlock and Buxton: Mr. Woodward.—Near Whaley Bridge, Castleton, and Bakewell: Mr. Watson, in N. B. G. Near Calke Abbey: Rev. A. Bloxam.—*Devon;* Meadows between Crocombe Bridge and Cannonleign; Wood near Wear Gate by the river Mew: *Fl. Devon.* N. Devon, between Barnstaple and Exeter, on the river Taw: Mr. Watson, in N. B. G.—*Durham;* In moist meadows and pastures, frequent: N. J. Winch, Esq.—*Gloucestersh.* Banks of the Berkeley Canal, and Robin's Wood Hill, Gloucester: G. S. Wintle, in N. B. G. In great plenty in meadows by the western side of the Severn, below Tewkesbury: N. B. G.—*Hunts;* About Ripton: Mr. Woodward.—*Lancash.* Near the Aqueduct, Lancaster: G. Crosfield, Esq.—*Leicestersh.* In the meadows by the river opposite Belvoir Castle; and in the fields South of Bottesford; near Merston, &c. plentifully: Rev. G. Crabbe. Glenfield, rare; at Braunston, near Leicester; and meadows about Congerstone: Rev. A. Bloxam. Near Ashby de la Zouch, near the outwoods: C. Babington, Esq. in N. B. G.—*Lincolnsh.* Fields about Belvoir Castle: Rev. G. Crabbe. Plentiful in meadows between Folkingham and Grantham: Dawson Turner, Esq.—*Middlesex;* Hampstead Heath: *Fl. Metr.*—*Northumberland;* Moist meadows and pastures, frequent: N. J. Winch, Esq.—*Notts.* About Nottingham, especially about Beeston and Lenton: Deering.—*Staffordsh.* About Stafford: Dr. Withering.—*Surrey;* About Croydon: *Fl. Metr.*—*Warwicksh.* In a field at the bottom of the Bleach-field, on a ditch bank, (Alcester); and in moist meadows at Upton, in Haslor Parish: T. Purton, Esq. Meadows near the Race Course, &c. Warwick, plentiful: Mr. W. G. Perry.—Common in meadows near Rugby: W. B.—In *Westmoreland,* common: N. B. G.—*Worcestersh.* In moist ground at the S. W. side of Nunnery Wood: E. Lees, Esq.—*Yorkshire;* Common in meadows at Ripon; Copgrove; and Redcar: and about Coxwold; Leeds; and Settle: *Bot. Guide.*—WALES. In *Breconshire; Glamorganshire: Flintshire; Monmouthshire;* and *Montgomeryshire.*—SCOTLAND. In *Berwickshire; Dumfriesshire; Kirkcudbrightshire,* and *Roxburghshire.*

Perennial.—Flowers in June and July.

Root strong, and somewhat woody. *Stem* from 18 inches to 3 feet high, upright, furrowed, leafy, smooth; branched towards the top. *Leaves* unequally pinnate, of 4 or 5 pair of *leaflets,* and a single one terminal; those from the root with very long foot-stalks; those on the stem alternate, and smallest, with a pair of large, rounded, cut *stipulas,* united to the base of the common foot-stalk. *Leaflets* stalked, egg-oblong, and somewhat heart-shaped at the base, strongly serrated, smooth, and veiny. *Spikes* egg-shaped, on long flower-stalks, dense, blunt, of a dull purple, or dark blood-red colour; the upper flowers expanding first, these are often without stamens, or with only an imperfect one. *Bracteas (calyx* of Linn.*)* fringed, 4 under each flower. *Calyx (corolla* of Linn.*)* hairy on the outside at the base, tube inclosing the germen, limb in 4 egg-shaped lobes, which, when old, adhere so slightly at their base that they might be almost considered as 4 distinct sepals. *Stigma* 4-cleft. *Seed* solitary, rarely two.

The whole plant is astringent. The root has been recommended as a tonic, though of very moderate efficacy. The young leaves are sometimes cut as salads, and it is used to form one of the ingredients in Cool Tankard; but the *Potcrium,* its near ally, is far more grateful in flavour. It is a coarse plant, and does not seem to be very acceptable to cattle.

L.Russell Del. *Helminthia echioides. Ex longue.* ⊙ K. White Sc

Published by W Baxter Botanic Garden. Oxford 1838

HELMI'NTHIA *.

Linnean Class and Order. SYNGENE'SIA †, POLYGA'MIA ÆQUALIS ‡.

Natural Order. COMPO'SITÆ §, *(Linn.)*, tribe, CICHORA'CEÆ, Lindl. Syn. pp. 140 & 156.; Introd. to Nat. Syst. of Bot. pp. 197 and 201.—Loud. Hort. Brit. pp. 520 & 521.—Mack. Fl. Hibern. pp. 142 & 159.—CICHORA'CEÆ, Juss. Gen. Pl. p. 168.—Sm. Gr. of Bot. p. 120.—SYNANTHE'REÆ, Rich. by Macgilliv. p. 454.—SYRINGALES; subord. ASTEROSÆ; type, CICHORACEÆ, Burn. Outl. of Bot. pp. 900, 901, & 935.

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) double, inner of 8 equal, parallel, close scales (fig 2.); outer of 5 large, lax, leafy ones, permanent. *Corolla* compound, imbricated, uniform; *florets* (fig. 3.) numerous, perfect, uniform, strap-shaped, abrupt, with 5 teeth. *Filaments* 5, hair-like, very short. *Anthers* united into a cylindrical tube *Germen* (see fig. 3.) nearly oval. *Style* thread-shaped, the length of the stamens (see fig. 3). *Stigmas* 2, reflexed. *Seed-vessel* none, except the permanent calyx, which at length becomes reflexed. *Seed* (fig. 5.) transversely striated. *Pappus* (see fig. 5.) feathery (see fig. 6.), stalked (stipitate). *Receptacle* (see fig. 7.) naked, dotted.

The double *involucrum*, innermost equal, outer lax; the feathery, stipitate *pappus;* the transversely striated *seed;* and the naked *receptacle;* will distinguish this from other genera in the same class and order.

This genus differs from *Picris* in the pappus being stipitate, not sessile.

One species British.

HELMI'NTHIA ECHIOI'DES. Echium-like Helminthia. Bristly Ox-tongue. Bugloss Langue-de-boeuf.

SPEC. CHAR. Outer scales (bracteolæ) of the Involucrum broad, egg-heart-shaped, somewhat spiny.

Gærtner's Fructibus et seminibus Plantarum, v. ii. p. 368 t. 159. f. 2.—Willd. Sp. Pl. v. iii. pt. iii. p. 1607.—Gray's Nat. Arr. v. ii. p. 431.—Lindl. Syn. p. 158.—Hook. Brit. Fl. p. 338.—Fl. Devon. p. 129.—Bab. Fl. Bath. p. 28.—Mack. Catal. of Pl. of Irel. p. 69.; Fl. Hibern. p. 162,—*Picris echioides*, Engl. Bot. t. 972.—Curt. Fl. Lond. t. 150.; Curt. Brit. Entomol. v. vii. t. 314.—Linn. Sp. Pl. p. 1114.—Huds. Fl. Angl. (2nd ed.) p. 342.—Sm. Fl. Brit. v. ii. p. 814; Engl. Fl. v. iii. p. 339.—With. (7th ed.) v. iii. p. 881.—Sibth. Fl. Oxon. p. 240.—Abbot's Fl. Bedf. p. 168.—Davies' Welsh Bot. p. 74.—Purt. Mid. Fl. v. ii. p. 374.—Relh. Fl. Cant. (3rd ed.) p. 316.—Johnst. Fl. of Berwick, v. i. p. 173.—Winch's Fl. of Northumb. & Durham, p. 50.—Walker's Fl. of Oxf. p. 221.—*Hieracium echioides capitulis cardui benedicti*, Ray's Syn. p. 166.—*Buglossum luteum*, Johnson's Gerarde, p. 798.

Fig. 1. Involucrum.—Fig. 2. One of the inner Scales of the Involucrum.—Fig. 3. A single Floret.—Figs. 4 & 5. The Seed and Pappus.—Fig. 6. A Ray of the Pappus, *magnified*.—Fig. 7. Receptacle.

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* From *Helminthion, a little worm;* which the rugose seeds somewhat resemble. LOUDON.

† See folio 91. ‡ See folio 117. § See folio 27, *a*.

Localities.—On the borders of corn-fields, and on ditch banks, and by road sides, on clay soil: frequent in ENGLAND and IRELAND.—Dr. Johnston thinks the Pier-road near the Limekiln, Berwick-upon-Tweed, is probably its most northern station, as it has not yet found a place in the Scottish Flora.

Root tapering, and somewhat branched. *Stem* 2 or 3 feet high, upright, cylindrical, furrowed, solid, leafy, very much branched; usually of a reddish-purple colour, clothed with scattered, stiff, horizontal, bristle-like hairs. *Lower-leaves* inversely egg-spear-shaped; *upper-leaves* heart-shaped, clasping the stem, and, like most other parts of the plant, beset with rigid, very pungent bristles, each of which springs from a white tubercle or wart. *Flowers* solitary, on grooved peduncles. Inner scales of the *Involucrum* keeled, keel fringed, ending in a fringed awn from a little below the summit of the scale (see fig. 2.). Outer scales spreading, heart-shaped, pointed, fringed with prickles, and terminated by a sharp prickle-like awn. *Corolla* about an inch in diameter, of a bright golden yellow. *Seed* (fig. 5.) shining, of a red orange colour, curiously and beautifully wrinkled or furrowed transversely. *Pappus* (fig. 5.) the length of the inner scales of the involucrum, on a stalk 3 or 4 lines long; rays (fig. 6.) feathery.

The whole plant abounds with a somewhat milky, very bitter, juice. It has been sometimes used as a pot-herb, but it can only be eaten when young, when it is said to be not disagreeable.

The flowers open about four or five o'clock in the morning, and do not close before noon; sometimes they remain expanded much later.

A nearly smooth variety of this plant is represented in Hermann's *Paradisus Batavus*, p. 185.

"See Nature gay, as when she first began
With smiles alluring her admirer man;
She spreads the morning over eastern hills,
Earth glitters with the drops the night distils;
The sun obedient at her call appears,
To fling his glories o'er the robes she wears;
Banks clothed with flowers, groves filled with sprightly sounds,
The yellow tilth, green meads, rocks, rising grounds,
Streams edged with osiers, fattening every field
Where'er they flow, now seen and now concealed;
From the blue rim where skies and mountains meet,
Down to the very turf beneath thy feet."—Cowper.

Nasturtium officinale. Water-Cress. 4

C. Mathews Del. & Sc. Pub.d by W. Baxter Botanic Garden Oxford 1838.

NASTU'RTIUM*.

Linnean Class and Order. TETRADYNA'MIA†, SILIQUOSA‡.

Natural Order. CRUCI'FERÆ§, Juss. Gen. Pl. p. 237.—Sm. Gr. of Bot. p. 138.; Engl. Bot. v. iii. p. 153.—Rich. by Macgilliv. p. 498.—CRUCI'FERÆ; subord. PLEURORHI'ZEÆ; tribe, ARABI'DEÆ; Lindl. Syn. pp. 20 & 22.; Introd. to Nat. Syst. of Bot. pp. 14 to 18.—Loud. Hort. Brit. pp. 498 & 499.; Mag. Nat. Hist. v. i. pp. 143 & 239.—Don's Gen. Syst. of Gard. and Bot. v. i. pp. 146 and 147.—Mack. Fl. Hibern. p. 16.—ROSALES; subord. RHŒADOSÆ; sect. RHŒADINÆ; type, BRASSICACEÆ; subty. ARABIDÆ; Burn. Outl. of Bot. pp. 614, 784, 847, 854, & 856.—SILIQUOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, equal at the base, of 4 egg-oblong, blunt, spreading, somewhat coloured, deciduous sepals. *Corolla* cruciform, of 4 inversely egg-shaped, spreading, entire petals, tapering into short claws (see fig. 2.); sometimes wanting. *Filaments* (see fig. 3.) 6, awl-shaped, simple; the 2 shortest each with a gland at the base withinside. *Anthers* incumbent, somewhat heart-shaped. *Germen* (fig. 4.) cylindrical. *Style* upright, short, cylindrical. *Stigma* blunt, notched. *Pod* (fig. 5.) nearly cylindrical, (sometimes short); *valves* (see fig. 6.) concave, neither ribbed nor keeled. *Seeds* (fig. 7.) small, irregularly attached in two rows, not bordered. *Cotyledons* accumbent, (o=).

The spreading *calyx*, equal at the base; and the nearly cylindrical, shortish *pod*, with concave keelless valves; will distinguish this from other genera, with accumbent *cotyledons*, in the same class and order.

Four species British.

NASTU'RTIUM OFFICINA'LE. Officinal Nasturtium. Common Water-Cress.

SPEC. CHAR. Leaves pinnate; leaflets roundish-heart-shaped, wavy.

Brown in Ait. Hort. Kew. (2nd ed.) v. iv. p. 110.—Sm. Engl. Fl. v. iii. p. 192.—With. (7th ed.) v. iii. p. 770.—Gray's Nat. Arr. v. ii. p. 678.—Lind. Syn. p. 25.—Hook. Brit. Fl. p. 304.; Fl. Scot. p. 201.—Grev. Fl. Edin. p. 144.—Fl. Devon. pp. 111 & 189.—Johnst. Fl. of Berw. v. i. p. 144—Winch's Fl. of Northumb. & Durham, p. 44.—Walker's Fl. of Oxf. p. 188.—Don's Gen. Syst. of Gard. & Bot. v. i. p. 155.—Loud. Ency. of Gard. (new ed.) p. 864. paragr. 4461—4467.—Bab Fl. Bath. p. 4.—Mack. Catal. of Pl. of Inel. p. 61.; Fl. Hib. p. 18.—*Nasturtium aquaticum, sive Crateræ sium*, Johnson's Gerarde, p. 257.—*Sisymbrium Nasturtium*, Engl. Bot. t. 855.—Curt. Fl. Lond. t. .—Woodv. Med. Bot. v. i. p. 134. t. 48.—Curt. Brit. Entom. vol. v. t. 201.—Linn. Sp. Pl. p. 916.—Huds. Fl. Angl. p. 296.—Willd. Sp. Pl. v. iii. pt. 1. p. 489.—Sm. Fl. Brit. v. ii. p. 700.—Lightf. Fl. Scot. v. i. p. 350.—Sibth. Fl. Oxon. p. 206.—Abbot's Fl. Bedf. p. 143.—Davies' Welsh Bot. p. 64.—Thornton's Fam. Herb. p. 617, with a fig.—Purt. Midl. Fl. v. i. p. 206.—Relh. Fl. Cant. (3rd ed.) p. 265.—*Sisymbrium Cardamine, seu Nasturtium aquaticum*, Ray's Syn. p. 300.

Fig. 1. Calyx.—Fig. 2. A Petal.—Fig. 3. Stamens.—Fig. 4. Germen.—Fig. 5. A Pod.—Fig. 6. Ditto, with the valves separated, showing the septum and seeds.—Fig. 7. A seed.—Fig. 1, 3, & 7, *a little magnified.*

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* From *nasus tortus*, a *convulsed nose*; an effect supposed to be produced by the acrid and pungent quality of this plant. Sir W. J. HOOKER.

† See folio 91, note *. ‡ See folio 117, note †. § See folio 27. *a.*

Localities.—In springs, brooks, rivulets, ponds, and watery ditches; common. Perennial.—Flowers in June and July.

Root of many long, simple, whitish fibres, the lowermost fixed in the soil, the rest suspended in the water. *Stems* many, spreading, usually creeping at the base, from 1 to 2 feet high, angular, branched, leafy, mostly smooth, but occasionally, when growing out of the water, a little hairy. *Leaves* alternate, smooth, deep shining green, sometimes tinged with dark purplish-brown, pinnate (winged), of 5 or 7, roundish, wavy *leaflets*, the terminal one the largest. *Stipulas* none. *Flowers* in a flattish corymb, which soon lengthens out into a raceme. *Calyx* purplish. *Corolla* small, white, or slightly purple. *Pods* about an inch long, tumid and undulated at the sides, smooth, curved upwards, each on an horizontal stalk, variable in length.

There are 2 or 3 varieties of this plant, but they are of little consequence.

Water-cress is a native in rivulets throughout the world. It is universally used as an early and wholesome Spring salad, either alone or with brook-lime or scurvy-grass; and is eaten fasting, or with bread and butter, by those who have faith in its antiscorbutic virtues. The juice, decocted with that of scurvy-grass and Seville oranges, forms the popular remedy called Spring Juices. In France it is not only used as salad, but dressed like spinach, and the picked leaves served with roasted fowl compose the favourite *Poulet au cressons*. Of late it has been cultivated on many acres of land in the vicinity of London, whence the markets are supplied daily throughout the year; but Water-cress grown in this way is far inferior to that grown in natural streams. In the latter state it is gathered by the peasantry in the neighbourhood of large towns, where the sale of it forms an important though humble branch of domestic commerce.

THE WATER-CRESS GIRL.

" She leaves her bed while yet the dew
Is sparkling on the flower;
And ere Aurora's golden hue
Hath tinged the old church tower—
Ere yet the matin bell hath toll'd,
Ere yet the flock hath left the fold,
Or the blithe lark his bower—
Before the shadowy mountain mist
By the first sun-beam hath been kiss'd.

Her way is o'er the dewy meads,
And by the violet dell,
To where a plank her footsteps leads,
By the old haunted well;
And then she steps from stone to stone,
In the brook's gurgling waters throne,
To where the cresses dwell;
And many a lily decks the scene,
Of which she looks the fairy queen!

Ah, little need she blush to see
The wave give back her face;
And her dark tresses wand'ring free
In all their native grace.
No worm hath marr'd her cheek's young bloom,
No mark of care's depressing gloom
Upon her brow hath place;
For love—false love,—hath never yet
His seal upon her young heart set."

From "The Diamond."

Scandix Pecten Veneris Venusis Comb. ⊙

C. Mathews Del. & Sc. Pub.d by P. Baxter Botanic Garden Oxford 1838

SCA'NDIX *.

Linnean Class and Order. PENTA'NDRIA †, DIGY'NIA.

Natural Order. UMBELLI'FERÆ ‡, Juss. Gen. Pl. p. 218.—Sm. Gr. of Bot. p. 132.—Lindl. Syn. p. 111.; Introd. to Nat. Syst. of Bot. p. 4.—Rich. by Macgilliv. p. 463.—Loud. Hort. Brit. p. 517.—Don's Gen. Syst. of Gard. & Bot. v. iii. p. 235.—Mack. Fl. Hibern. p. 113.—UMBELLATÆ, *Linn.*—ROSALES; sect. ANGELICINÆ; type. SMYRNIACEÆ; subtype, SCANDICIDÆ; Burn. Outl. of Bot. pp. 614, 770, 780, & 781.

GEN. CHAR. *Flowers* separated; the innermost barren. *Calyx* obsolete. *Corolla* (see fig. 1.) superior, of 5, unequal, undivided, spreading, inflexed petals, tapering at the base (see fig. 2). *Filaments* (see fig. 1.) 5, thread-shaped, spreading, the length of the corolla. *Anthers* roundish. *Germen* (see figs. 1 & 3.) inferior, oblong, somewhat compressed, more or less rough, with close hairs. *Styles* (see fig. 3.) 2, spreading, short, finally upright, permanent, swelled at the base. *Stigmas* simple; in the barren flowers blunt. *Fruit* (fig. 4.) ribbed, compressed at the side, somewhat bristly, elliptic-oblong, with a straight, linear, flat, bristly, very long beak, crowned with the permanent, enlarged, 5-lobed, coloured receptacle of the flower, surrounding the base of the *styles*. *Carpels* (figs. 5 & 6.) with 5, blunt, equal *ridges*, the lateral ones marginal. *Channels* without *vittæ*, or with scarcely any. *Seed* (fig. 7.) roundly convex, with a deep furrow in front. *Universal Involucrum* none, or few-leaved; *partial involucrum* 5- or 7-leaved. *Flowers* white.

The obsolete *calyx;* the unequal, undivided *petals;* the somewhat bristly *fruit*, with a very long beak; and the *carpels* with 5 blunt, equal ridges, with the *channels* destitute of *vittæ*, or with scarcely any; will distinguish this from other genera in the same class and order.

One species British.

SCA'NDIX PECTEN-VENERIS. Venus's Comb. Our Lady's Comb. Common Shepherd's Needle. Needle Chervil. Beggar's Needle Crow Needles.

SPEC. CHAR. Stem rough. Leaves thrice pinnatifid; with many strap-shaped, short segments. Fruit roughish, with a very long beak.

Eng. Bot. t. 1397.—Curt. Brit. Entomol. v. ix. t. 401.—Linn. Sp Pl. p. 368.—Huds. Fl. Angl. (2nd ed.) p. 123.—Sm. Brit. Fl. v. i. p. 324; Engl. Fl. v. ii. p. 46.—With. (1st ed.) v. i. p. 174.—Lindl. Syn. p. 125.—Lightf. Fl. Scot. v. i. p. 166.—Davies' Welsh Bot. p. 29.—Relh. Fl. Cant. (3rd ed.) p. 123.—Hook. Fl. Scot. p. 92.—Fl. Devon. pp. 52 & 167.—Johnst. Fl. of Berw. v. i. p. 67.—Winch's Fl. of Northumb. and Durham, p. 18.—Don's Gen. Syst. of Gard. and

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Fig. 1. A single Flower.—Fig. 2. A Petal.—Fig. 3. The young Fruit, crowned with the floral receptacle and styles.—Fig. 4. The full grown Fruit.—Fig. 5. A Carpel, with its beak.—Fig. 6. A Carpel divided transversely.—Fig. 7. Section of the Seed, showing the Embryo.

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* From *Skeo*, Gr. to *prick;* because of the sharp and long points to the Seeds. Sir W. J. HOOKER.

† See folio 48, note †. ‡ See folio 235, *a*.

Bot. v. iii. p. 363.—Walker's Fl. of Oxf. p. 76.—Bab. Fl. Bath. p. 21.—Mack. Catal. of Pl. of Irel. p. 29.—*Scandix Pecten*, Curt. Fl. Lond. t. 249.—Jacq. Fl. Austr. v. iii. p. 35. t. 263.—Mart. Fl. Rust. t. 38.—Willd. Sp. Pl. v. i. pt. II. 1449.—With. (7th ed.) v. ii. p. 387.—Hook. Brit. Fl. p. 131.—Sibth. Fl. Oxon. p. 100.—Abbot's Fl. Bedf. p. 66.—Purt. Midl. Fl. v. i. p. 154.—Grev. Fl. Edin. p. 72.—Mack. Fl. Hibern. p. 126.—*Scandix vulgaris*, Gray's Nat. Arr. v. ii. p. 503.—*Scandix semine rostrato vulgaris*, Ray's Syn. p. 207.—*Pecten veneris*, Johnson's Gerarde. p. 1040.

Localities.—In corn-fields; common.

Annual.—Flowers from May to August.

Root tapering, simple, whitish, furnished with a few fibres. *Stems* from 6 to 12 inches high, one or more from the same root; spreading, branched, leafy, furrowed, rough, often purplish. *Leaves* light green, thrice pinnatifid, with strap-shaped, pointed, smooth segments. *Petioles (footstalks)* dilated at the base, with membranous, hairy edges. *Umbels* irregular, sometimes simple, but usually of 2 or 3 rays, without an *involucrum*. *Umbellules (partial umbels)* small, of several short rays, accompanied by a *partial involucrum* of several broad, cloven or jagged, white-edged leaves, longer than the partial flower-stalks. *Flowers* small, white, in some degree radiant, especially those of the circumference, which ripen seed, the innermost having no perfect germens. *Petals* unequal, entire, inversely egg-shaped, pointed and inflexed at the apex. *Fruit* oblong, rough, furnished with an angular, rough beak, an inch and a half or two inches long, and crowned with the purplish, enlarged, 5-cleft *receptacle* of the flower, over-topped by the straight upright *styles*.—Dr. Withering says, that by carefully dividing the germen after it has shot out an inch or more in length, a tube continued from the styles down to the seeds may be discovered.

This plant is a very common weed in corn-fields, not only in Britain, but in all the Southern parts of Europe, and also in the North of Africa and Teneriffe. The very long beak of the fruit will distinguish it from all other British umbelliferæ. It is slightly aromatic and acrid, but no particular use is attributed to it. Dioscorides mentions it as eatable, but his Σκανδιξ *(Scandix)* may not be ours.

"How many plants, we call them weeds,
Against our wishes grow,
And scatter wide their various seeds
With all the winds that blow.

Man grumbles when he sees them rise,
To foul his husbandry;
Kind Providence this way supplies
His lesser family.

Scatter'd and small, they 'cape our eye,
But are not wasted there;
Safe they in clefts and furrows lie,
The little birds find where."

Saturday Magazine.

T. Rufsell Del.

Cnoporidum Acanthium. Cotton-thistle. 8

W. W... sc.

Published by W Harter, Botanic Garden Oxford 1838

ONOPO'RDUM*.

Linn. Class & Order. SYNGENE'SIA †, POLYGA'MIA, ÆQUALIS ‡.
Natural Order. COMPO'SITÆ §; tribe, CYNAROCEPHALÆ, *Juss.*—Lindl. syn. pp. 140 & 152; Introd. to Nat. Syst. of Bot. pp. 197 and 200.—COMPO'SITÆ; subord. CARDUA'CEÆ; Loud. Hort. Brit. pp. 520 and 521.—SYNANTHE'REÆ; tribe, CYNAROCEPHALÆ; Rich. by Macgilliv. pp. 454 and 455.—CINAROCEPHALÆ, sect. 1. Juss. Gen. Pl. pp. 171 and 172.—Sm. Gram. of Bot. p. 121.; Engl. Fl. v. iii. p. 334.—SYRINGALES; type, CYNARACEÆ; Burn. Outl. of Bot. pp. 900 and 931.—COMPO'SITÆ, *Linn.*

GEN. CHAR. *Involucrum (common calyx)* (fig. 1, *a.*) orbicular, tumid, imbricated, of numerous, spear-shaped, spinous-pointed, spreading, or upright, permanent scales. *Corolla* (see fig. 1, *b.*) compound, uniform; *florets* (see fig. 1, *b*, & *f*, 2.) very numerous, equal, tubular, funnel-shaped; tube very slender; limb in 5 deep, strap-shaped, equal segments. *Filaments* (see fig. 3.) 5, hair-like, very short. *Anthers* (see fig. 3.) united into a cylindrical tube, with 5 teeth. *Germen* (see figs. 2 & 3.) inversely egg-shaped, short. *Style* (fig. 3.) thread-shaped, prominent. *Stigma* oblong, notched. *Seed-vessel* none. *Seed* (fig. 5.) compressed, 4-cornered, furrowed transversely. *Pappus* (fig. 4.) sessile, hair-like, rough, connected in a ring at the base, embracing the point of the seed, and finally deciduous. *Receptacle* (see figs. 6 & 7.) convex, fleshy, deeply cellular like honey-comb, the membranous edges of the cells uneven, jagged, or fringed.

Distinguished from other genera, in the same class and order, by the cellular, or honey-combed, *receptacle.*

One species British.

ONOPO'RDUM ACA'NTHIUM. Common Cotton-Thistle. Argentine, or Silver-Thistle. White Cotton-Thistle. Wild White-Thistle.

SPEC. CHAR. Leaves egg-oblong, decurrent, sinuated, spinous; cottony on both sides. Scales of the Involucrum awl-shaped, spreading in every direction.

Engl. Bot. 977.—Curt. Fl. Lond. t. 334.—Linn. Sp. Pl. p. 1158.—Hudson, Fl. Angl. (2nd ed.) p. 354.—Willd. Sp. Pl. v. iii. pt. III. p. 1686.—Sm. Fl. Brit. v. ii. p. 856.; Engl. Fl. v. iii. p. 395.—With. (7th ed.) v. iii. p. 916.—Lindl. Syn. p. 152.—Hook. Brit. Fl. p. 353.—Lightf. Fl. Scot. v. i. p. 459.—Sibth. Fl. Oxon. p. 247.—Abb. Fl. Bedf. p. 177.—Purt. Midl. Fl. v. ii. p. 384.—Relh. Fl. Cant. (3rd edit.) p. 332.—Hook. Fl. Scot. p. 238.—Grev. Fl. Edin. p. 174.—Johnst. Fl. of Berw. v. i. p. 179.—Winch's Fl. of Northumb. and Durh. p. 53.—Walker's Fl. of Oxf. p. 233.—Perry's Pl. Varv. Selectæ, p. 68.—Pamplin's Catal. of Pl. of Battersea and Clapham, p. 14.—*Onopordum vulgare*, Gray's Nat. Arr. v. ii. p. 434.—*Carduus tomentosus, Acanthium dictus, vulgaris*, Ray's Syn. p. 196.—*Acanthium album*, Johnson's Gerarde, p. 1149.

LOCALITIES.—In waste ground, on hedge-banks, rubbish, and by road-sides, chiefly on a gravelly soil; frequent.—*Oxfordsh.* Hedge-banks on Bullington Green, near Magdalen College Copse; between the Parks and Sommers Town;

Fig. 1. A vertical section of a Flower; *a.* the involucrum; *b.* the florets; *c.* the receptacle.—Fig. 2. A single Floret.—Fig. 3. Germen, Pistil, and Stamens.—Fig. 4. Pappus.—Fig. 5. Seed.—Figs. 6 & 7. Parts of the Receptacle.

* From *onos*, Gr. an *ass*; and *perdo*, Gr. *pedere*; such being the effect, according to PLINY, upon the ass who eats of it. HOOKER.

† See fol. 91, n. †. ‡ See fol. 147, n. ‡. § See fol. 27, *a.*

and other places about Oxford, not uncommon: W. B.—Common in *Bedfordshire;* Rev. C. Abbot.—*Cambridgesh.* Way-sides, rubbish, and dunhills: Rev. R. Relhan.—*Durham;* On waste ground and hedge-banks, but not very common, except near the sea-coast: N. J. Winch, Esq.—*Essex;* Common about Woodford: R. Warner.—*Gloucestersh.* Between Rockeridge Common and Ripple; near Twining: Mr. E. Lees, in N. B. G. Lower Slaughter: E. F. Witts, Esq.—*Kent;* In South Kent: Rev. G. E. Smith. Tunbridge Wells: *Fl. Tonb.* Common near Faversham: E. Jacob, Esq.—*Norfolk;* Abundant near Norwich: S. P. Woodward, in N. B. G.—*Northumberland;* On waste ground and hanks, but not very common, except near the sea-coast; near the Scotch Gate: N. J. Winch, Esq.—*Notts;* Frequent in the vicinity of Nottingham: Dr. Deering.—*Shropsh.* Atchley, near Shiffoall: H. Bidwell, Esq.—*Somersetsh.* Near the church, Berlow: J. C. Collins, in N. B. G.—*Suffolk;* Near Bungay: Mr. D. Stock, in N. B. G.—*Surrey;* In several places near Battersea: Mr. W. Pamplin, jun. In small quantity, by the road-side, between the farm buildings of Captain White and the rail-road, Long Ditton: Mr. Watson, in N. B. G.—In *Sussex;* W. Borrer, Esq.—*Warwicksh.* Bidford, Brome: T. Purton, Esq. Near the Old Pond, Coton-end, Warwick. In a lane leading from Nicholas' Meadow to the Emscote road, Warwick: Mr. W. G. Perry.—*Worcestersh.* A fine *forest* of this magnificent thistle at Claines, two miles north of Worcester, in 1836: Mr. E. Lees, in N. B. G. At Worcester, on the Evesham road: T. Purton, Esq.—WALES. In *Montgomeryshire;* perhaps naturalized: J. E. Bowman, in N. B. G.—SCOTLAND. *Edinburghsh.* Near Misselburgh: Mr. Arnott.—*Fifeshire;* Between Limekilns and Charlestown: Mr. Neill. At Weems on the coast of Fife: Rev. J. Lightfoot.—*Haddingdonsh.* Sea shore beyond Preston-pans: Rev. J. Lightfoot. Near Cockenzie; Links at Port Seton: Mr. Maughan.—*Lanarksh.* Near the coach-house Barncluith: N. B. G.—*Roxburghsh.* Near Melrose: Mr. Maughan.—*Isle of Man;* On the sand, very rare: Mr. Forbes.

Biennial.—Flowers in July and August.

Root tap-shaped. *Stem* from 3 to 5 or 6 feet high, upright, very much branched, and somewhat woolly, with a broad, leafy, irregularly toothed, spinous border, running up to the involucrum. *Leaves* sessile, egg-oblong, covered on both surfaces with a white cottony down, spreading, lobed, notched and spinous, the base running down into the numerous prickly borders, or wings, of the stem; lowermost leaves very large, often a foot and a half long, and nearly a foot wide. *Flowers* solitary, at the ends of the branches, large, upright, of a bluish rose-colour. *Involucrum* of numerous, spreading, awl-shaped, spinous-pointed scales. *Seeds* inversely egg-shaped, slightly compressed, faintly angular, wrinkled, blackish. *Pappus* slightly hispid when magnified. *Receptacle* reticulated with square membranous cells, like a honey-comb.

When the flowering is over, the innermost scales of the involucrum close together, and preserve the seed; in this respect, as well as in the honey-combed receptacle, it differs from the common Thistles, (the *carduus** and *cnicus* tribes), in which, as soon as the seed is ripe, the first hot day opens the heads, expands the pappus, and the least wind carries away the seeds, but in this plant they remain shut up, and strongly defended; nor can they commit themselves to the earth, or be eaten by birds, till long exposure to the weather has decayed the involucrum which encloses them; and thus they afford sustenance to birds late in the year.

The Cotton Thistle is a magnificent and beautiful plant, its whole herbage is covered, more or less, with a white cottony pubescence, which is easily rubbed off, and which, we are told by Gerarde, is gathered for divers purposes, as well by the poor to stuff pillows, cushions, and beds, as by deceitful upholsterers, to mix with feathers for the same purpose. But, as Sir J. E. Smith observes, it seems very inadequate in quantity, as well as in quality, having no elasticity, and shrinking to nothing under the touch. The receptacle of the flowers, and the tender stalks peeled and boiled, may be eaten in the same manner as Artichokes and Cardoons. The large brown *seeds* are eaten by Goldfinches; and the bird-catchers about London provide themselves with heads of this Thistle and the *Carduus marianus*, to entrap these and other birds, in bright autumnal mornings.

* See fol. 177.

L. Rufsell Del

Picris hieracioides. Hawk-weed Picris. 8

W. Wells s

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PI'CRIS*.

Linn. Class & Order. SYNGENE'SIA†, POLYGA'MIA, ÆQUALIS‡.

Natural Order. COMPO'SITÆ §, *(Linn.)*, tribe, CICHORA'CEÆ, Lindl. Syn. pp. 140 & 156.; Introd. to Nat. Syst. of Bot. pp. 197 and 201.—Loud. Hort. Brit. pp. 520 & 521.—Mack. Fl. Hibern. pp. 142 & 159.—CICHORA'CEÆ, Juss. Gen. Pl. p. 168.—Sm. Gr. of Bot. p. 120.—SYNANTHE'REÆ, Rich. by Macgilliv. p. 454.—SYRINGALES; subord. ASTEROSÆ; type, CICHORACEÆ; Bnrn. Outl. of Bot. pp. 900, 901, & 935.

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) double; inner of many compact, upright, equal scales; outer of several lax, small, strap-shaped ones. *Corolla* compound, imbricated, uniform; *florets* (fig. 3.) numerous, perfect, uniform, strap-shaped, abrupt, with 5 teeth. *Filaments* (see fig. 2.) 5, hair-like, very short. *Anthers* (see fig. 2.) united into a cylindrical tube. *Germen* (see figs. 2 & 3.) nearly oval. *Style* (see fig. 2.) thread-shaped, the length of the stamens. *Stigmas* 2, reflexed. *Seed-vessel* none, except the permanent involucrum, which at length becomes reflexed (see fig. 6). *Seed* (see figs. 4 & 5.) transversely triated. *Pappus* (see fig. 5.) sessile, slightly feathery. *Receptacle* (see fig. 6.) naked, dotted.

The double *involucrum*, innermost of many compact, upright, equal scales, outer of several lax, small, strap-shaped ones; the feathery, sessile *pappus;* the transversely wrinkled *seed;* and the naked *receptacle;* will distinguish this genus from others in the same class and order.

It differs from the genus *Helminthia* (t. 270.) in the pappus being sessile, not stipitate.

One species British.

PI'CRIS HIERACIOIDES. Hawkweed-like Ox-tongue. Hawkweed Yellow-succory. Curled Hawkweed.

SPEC. CHAR. Stem rough with hooked bristles. Leaves spear-shaped, rough, toothed. Flowers corymbose; peduncles with many bracteas. HOOKER.

Engl. Bot. t. 196.—Linn. Sp. Pl. p. 1115.—Willd. Sp. Pl. v. iii. pt. iii. p. 1556.—Sm. Fl. Brit. v. ii. p. 814.; Engl. Fl. v. iii. p. 339.—With. (7th ed.) v. iii. p. 882.—Gray's Nat. Arr. v. ii. p. 430.—Lindl. Syn. 1st edit. p. 159; 2nd edit. p. 158.—Hook. Brit. Fl. p. 338.—Sibth. Oxon. p. 240.—Abb. Fl. Bedf. p. 168.—Purt. Midl. Fl. v. ii. p. 375.—Relh. Fl. Cant. (3rd ed.) p. 316.—Hook. Fl. Scot. p. 226.—Fl. Devon. pp. 129 & 154.—Winch's Fl. of Northumb. and Durh. p. 50.—Walker's Fl. of Oxf. p. 221.—Bab. Fl. Bath. p. 28.—Mack. Catal. of Pl. of Irel. p. 69; Fl. Hibern. p. 162.—*Hedypnois Hieracioides*, Huds. Fl. Angl. (2nd ed.) p. 342.—*Hieracium asperum majori flore, in agrorum limitibus*, Ray's Syn. p. 167.—*Hieracium asperum*, Johnson's Gerarde, p. 298.

LOCALITIES.—On dry banks, road-sides, and borders of fields, on a gravelly or chalky soil; frequent.—Rare in Ireland.

Biennial.—Flowers in July and August.

Fig. 1. Involucrum.—Fig. 2. Stamens and Pistil.—Fig. 3. A Floret.—Fig. 4. A Seed, crowned with the sessile pappus.—Fig. 5. The same, *a little magnified.*—Fig. 6. The reflexed Involucrum, showing the receptacle, with one of the seeds attached.

* From *pikros*, Gr. *bitter;* on account of the bitterness of many of this tribe.

† See fol. 19, n. τ. ‡ See fol. 147, n. ‡. § See fol. 27, *a*.

Root fibrous, tough. *Stem* 2 or 3 feet high, upright, round, furrowed, solid, leafy, rough with short, coarse hairs, which are not bristly or pungent, much branched; branches spreading, furrowed, purplish on their upper side and in their axils. *Leaves* pointed, wavy, spear-shaped; those from the root unequally and broadly toothed, on bordered *footstalks;* those on the stem sessile, and somewhat heart-shaped at the base; the uppermost approaching to strap-shaped. *Peduncles (flower-stalks)* branched, somewhat corymbose, each branch with several, scattered, spear-shaped bracteas, and bearing one largish, bright yellow *flower*. Inner scales of the *involucrum* nearly strap-shaped, parallel, hairy on the outside, and exactly the length of the *pappus*, which is slightly feathery; outer scales loosely spreading, similar to the inner, but unequal, and all much shorter. *Seeds* oblong, roundish, drawn to a point at both ends, furrowed, and transversely wrinkled. *Receptacle* flat, with shallow pits, which are somewhat pentagonal.

This plant is a native of many other parts of Europe as well as of England. It is of a dark-green colour, and rough with short, coarse hairs.

SUMMER.

"They may boast of the spring-time when flowers are the fairest,
And birds sing by thousands on every green tree;
They may call it the loveliest, the greenest, the rarest,—
But the Summer's the season that's dearest to me!

For the brightness of sunshine; the depth of the shadows;
The crystal of waters; the fullness of green;
And the rich flowery growth of the old pasture meadows,
In the glory of Summer can only be seen.

Oh, the joy of the green-wood! I love to be in it,
And list to the hum of the never-still bees;
And to hear the sweet voice of the old mother linnet,
Calling unto her young 'mong the leaves of the trees!

To see the red squirrel frisk hither and thither,
And the water-rat plunging about in his mirth;
And the thousand small lives that the warm Summer weather
Calls forth to rejoice on the bountiful earth!

Then the mountains, how fair! to the blue vault of heaven
Towering up in the sunshine, and drinking the light,
While adown their deep chasms, all splintered and riven,
Fall the far-gleaming cataracts silvery white!

And where are the flowers that in beauty are glowing
In the gardens and fields of the young merry Spring,
Like the mountain-side wilds of the yellow broom blowing,
And the old forest pride, the red wastes of the ling?

Then the garden, no longer 'tis leafless and chilly,
But warm with the sunshine, and bright with the sheen
Of rich flowers, the moss-rose and the bright tiger-lily,
Barbaric in pomp as an Ethiop Queen.

Oh, the beautiful flowers, all colours combining,
The larkspur, the pink, and the sweet mignionette,
And the blue fleur-de-lis, in the warm sunlight shining,
As if grains of gold in its petals were set!

Yes, the Summer,—the radiant Summer's the fairest,
For green woods and mountains, for meadows and bowers,
For waters, and fruits, and for flowers the rarest,
And for bright shining butterflies, lovely as flowers!"

From "*Birds and Flowers*," a volume of delightful Poetry, by Mrs. Mary Howitt.

Monotropa Hypopitys. Yellow Birds-nest. 4

Published by W Baxter. Botanic Garden. Oxford 1838.

MONO'TROPA*.

Linnean Class and Order. DECA'NDRIA†, MONOGY'NIA.

Natural Order. PYROLA'CEÆ‡, Lindl. Introd. to Nat. Syst. of Bot. p. 184.—Mack. Fl. Hibern. p. 182.—PYRO'LEÆ, Lindl. Syn. p. 175.—MONOTRO'PEÆ, Nutt. Gen. v. i. p. 272., *fide Lindley.*—ERICA'CEÆ; tribe, MONOTRO'PEÆ; Don's Gen. Syst. of Gard. and Bot. v. iii. pp. 785 & 789.—ERICI'NEÆ, Rich. by Macgilliv. p. 450.—ERI'CEÆ; sect. MONOTRO'PEÆ; Loud. Hort. Brit. p. 523.—SYRINGALES; subord. ERICOSÆ; sect. ERICINÆ; type, ERICACEÆ; subtype, PYROLIDÆ; Burn. Outl. of Bot. pp. 900, 937, 944, 946, & 947.

GEN. CHAR. *Calyx* inferior, of 4 or 5 coloured sepals (see fig. 2). *Corolla* permanent, of 4 or 5, inversely egg-oblong, upright, petals, slightly cohering, and concave at the base (see fig. 1). *Filaments* (see fig 3.) 10, or 8, upright, strap-shaped, flattish, shorter than the corolla; the 5 or 4 alternate ones rather the smallest. *Anthers* kidney-shaped, upright, of 1 cell and 2 valves. *Germen* (see fig. 3.) superior, egg-shaped, with 5, or 4, furrows. *Stigma* orbicular, peltate. *Capsule* (fig. 4.) superior, roundish, with 5, or 4, furrows, and as many cells and valves, with a partition (dissepiment) from the centre of each valve; and a spongy central column (placenta) of as many angles (see fig. 5). *Seeds* (fig. 6.) very numerous, minute, oval, enveloped in a membranous reticulated *tunic*, or *arillus*, greatly elongated at both ends.—Herbaceous *parasitical plants, with leafless scaly* stems.

The terminal *flower*, which in some species is the only one with 10 stamens, 5 sepals, and 5 petals, determines the class, as in *Adoxa*, t. 42.

Distinguished from other genera, in the same class and order, by the *calyx* of 4 or 5, coloured sepals; the *corolla* of 4 or 5 petals, slightly united at the base; the simple cylindrical *style;* and the 4- or 5-celled, 4- or 5-valved, many-seeded *capsule.*

One species British.

MONO'TROPA HYPO'PITYS§. Yellow Bird'-nest. Yellow Pine-sap.

SPEC. CHAR. Flowers in a terminal cluster, at first drooping; lateral ones with 8 stamens; terminal one with 10.

Engl. Bot. t, 69.—Hook. Fl. Lond. t. 105.—Linn. Sp. Pl. p. 555; Fl. Suecica, (2nd. ed.) p. 135.—Hud. Fl. Angl. (2nd ed.) p. 175.—Willd. Sp. Pl. v. ii. pt. 1. p. 573.—Sm. Fl. Brit. v. ii. p. 440.; Engl. Fl. v. ii. p. 249.—With. (7th ed.) v. ii.

Fig. 1. A Petal.—Fig. 2. A Sepal.—Fig. 3. Stamens and Pistil.—Fig. 4. A Capsule.—Fig. 5. A transverse section of a Capsule.—Fig. 6. A Seed.

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* From *monos*, Gr. *one;* and *trepo*, Gr. *to regard;* alluding to the Linnæan principal of chiefly attending to the single terminal flower for the determination of the class and genus in preference to the lateral ones, as exemplified in the present genus. WITHERING.

† See fol. 37, n. †.

‡ See fol. 239, *a.*

§ From *hupo*, Gr. *under;* and *pitys*, Gr. a *pine tree;* in allusion to its place of growth. DON.

p. 519.—Lindl. Syn. p. 176.—Hook. Brit. Fl. p. 186.—Lightf. Fl. Scot. v. i, p. 214.—Sibth. Fl. Oxon. p. 136.—Abb. Fl. Bedf. p. 92.—Relh. Fl. Cant. (3rd edit.) p. 171.—Purt. Midl. Fl. v. iii. p. 36.—Hook. Fl. Scot. p. 125.—Winch's Fl. of Northumb. and Durham, p. 27.—Walker's Fl. of Oxf. p. 117.—Bab. Fl. Bath. p. 30.—Mack. Catal. of Pl. of Irel. p. 39.; Fl. Hibern. p. 184.—*Hypópitys lútea*, Ray's Syn. p. 317.—Blackst. Spec. Bot. p. 39.—Gray's Nat. Arr. v. ii. p. 404.—*Hypópitys Europæ'a*, Don's Gen. Syst. of Gard. and Bot. v. iii. p. 886.—*Orobanche verbasculi odore*, Plot's Nat. Hist. of Oxf. p. 146. t. 9. f. 6.

Localities.—In woods of beech and fir, on a dry soil; not uncommon.—*Oxfordsh.* In Stokenchurch Woods. Woods between Nettlebed and Henley: Dr. Sibthorp. In the Beech Walk at Mongewell; and also in Mongewell Woods; 1837: Mr. W. Willis, Engraver, Wallingford, Berks. Beech Woods between Henley and Great Marlow: N. J. Winch, Esq.—*Berks;* In the woods at Park Place: Dr. Notheden. Woods and Plantations near Buckland: Mr. John Reddy. Near the path, upper side of Bisham Wood: Mr. W. Hurst. In a wood at Baseldon House: Mr. E. Foster, jun.—*Beds.* Hostler's Wood, near Market Street: J. Sibley, Esq.—*Bucks;* In Marlow Wood, in abundance: Mr. Gotobed. Common in this county: Hudson.—*Cambridgesh.* Madingley Plantations: Rev. R. Relhan.—*Gloucestersh.* Woods near Uley: Mr. Baker. Leigh Wood, Bristol: Mr. Dyer. Slade Woods: G. W. Sandys, Esq. Upper Slaughter, Stow-on-the-Wold, Cranham Woods, &c.: E. F. Witts, Esq.—*Hampsh.* In Selborne Hanger under the shady beeches, to whose roots it seems to be parasitical; at the N. W. end of the Hanger: White's *Selborne.* Mr. W. Pamplin, jun. observed it in the same place, in May, 1836. In Halt Wood: Dr. Pulteney. By the footway through the under-cliff from Luccombe to Bonchurch: Mr. J. Woods, jun.—*Hertfordsh.* Near Tring: Mr. Doody, in *Ray's Syn.;* and Mr. W. Pamplin, jun.—*Kent;* Stowting, at the foot of Ashes and Alders: Sir W. J. Hooker. Woods near Cobham: Mr. W. Pamplin, jun. Wood near Maidstone: Mr. Jarvis.—*Lincolnsh.* Close to Summer Castle, in Fir Woods: Rev. J. Dalton.—*Norfolk;* In a Fir Wood at Shotisham, near Stoke: Mr. Crow.—*Notts;* Oak Plantations near Ollerton: N. B. G.—*Somersetsh.* In Fir Plantations at the top of Widcombe Hill: Dr. Davis.—*Staffordsh.* Lord Stamford's Woods at Enville: Dr. Withering.—*Suffolk;* Bungay, found only in one station: N. B. G.—*Surrey;* About Box Hill: Mr. Graves. Mickleham: Mr. W. Christy. Coulsdon: Mr. E. Wood, in N. B. G.—*Sussex;* St. Leonard's and Charlton Forests; Eastclean, towards Houghton Beech Woods: *Bot. Sus.*—*Wilts;* Clarendon Wood, near Salisbury: Dr. Maton—*Worcestersh.* Shrawley Wood: Mrs. Gardner.—*Yorksh.* Wood near Everton: Mr. Salt.—In SCOTLAND, and IRELAND, but rare.

Perennial.—Flowers in June and July.

Root fibrous, branched, and somewhat creeping, often adhering to the roots of trees, under which it grows, but it is uncertain whether it is parasitical. *Stem* from 5 to 9 inches high, upright, mostly solitary, simple, round, smooth and shining, having no *leaves*, but instead of them numerous egg-shaped *scales*, of the same dingy yellow-colour as the stem. *Flowers* the same colour as the rest of the plant, on short, scaly, or bracteated peduncles, in a kind of *raceme* or *cluster* at the top of the stem, at first drooping, then upright. *Calyx* smooth, the sepals slightly ciliated at the edge. *Stamens* alternately smaller, often hairy. *Germen* roundish, 4- or 5-lobed. *Stigma* large, peltate. *Seeds* very minute, rarely perfected, enveloped in a reticulated *arillus*.

The whole plant is succulent, and of a pale yellow, or brownish-yellow colour, which peculiarity is generally confined to parasitic plants, or such as grow in very shady situations. It turns quite black in drying, and exhales, during that process, an agreeable musky scent. It is a native of many other parts of Europe besides Britain; as Sweden, Denmark, France, Italy, &c. It is also found in N. America, from Canada to Pennsylvania, at the roots of beech and other trees, in shady moist places. Linnæus informs us, in his *Flora Suecica*, that in Sweden it is given dry to sheep that are effected with a cough.

J. Fitzgall. Del.

Sparganium simplex. Bur-reed. 4

W. Willis. Sc.

Published by W. Baxter, Botanic Garden, Oxford. 1838

SPARGA'NIUM*.

Linnean Class and Order. Monœcia †, Tria'ndria.

Natural Order. Typha'ceæ, *Dec.*—Lindl. Syn. p. 247 ; Introd. to Nat. Syst. of Bot. p. 285.—Mack. Fl. Hibern. p. 262.—Typhæ, Juss. Gen. Pl. p. 25.—Sm. Gram. of Bot. p. 67.—Typhinæ, Rich. by Macgilliv. p. 389.—Loud. Hort. Brit. p. 540.—Aroideæ, sect. 3. R. Brown, Prod. 338.—Juncales ; sect. Typhinæ ; type, Typhaceæ; Burn. Outl. of Bot. v. i. pp. 403, 404, & 407.—Calamariæ, *Llnn.*

Gen. Char. *Sterile-flowers* (see figs. 1 & 2.) numerous, collected into one or more, dense, superior balls. *Calyx* (see fig. 2.) of 3 or more, oblong, obtuse, equal, deciduous sepals. *Corolla* none. *Filaments* (see fig. 2.) 3, hair-like, upright, longer than the calyx. *Anthers* roundish, 2-celled.

Fertile-flowers (see figs. 3 & 4.) numerous, in one or more dense balls, beneath the sterile ones. *Calyx* (see fig. 4.) the same as in the sterile-flower. *Corolla* none. *Germen* (see fig. 4.) superior, egg-shaped. *Style* short, terminal. *Stigma* awl-shaped, or egg-shaped, oblique, downy at one side, mostly solitary, rarely 2, permanent. *Fruit* (fig. 5.) sessile, inversely egg-shaped, beaked, dry, of 1, rarely 2, cells. *Nut* (fig. 7.) solitary, egg-shaped. *Embryo* cylindrical, straight. in the centre of a mealy *albumen*. *Common Receptacle* globose, naked.

Distinguished from other genera, in the same class and order, by the dense, round *heads* or *spikes ;* the *calyx* of 3 sepals, without a corolla ; and by the dry, 1-seeded *fruit.*

Three species British.

SPARGA'NIUM SIMPLEX. Unbranched upright Bur-reed.

Spec. Char. Leaves triangular at the base, with flat sides. Common flower-stalk simple. Stigma strap-shaped.

Engl. Bot. t. 745.—Curt. Fl. Lond. t. 341.—Curt. Brit. Entomol. v. x. t. 436.—Huds. Fl. Angl. (2nd ed.) p. 401, excluding var. β.—Sm. Brit. Fl. v. iii. p. 962.—Willd. Sp. Pl. v. iv. pt. i. p. 199.—Sm. Engl. Fl. v. iv. p. 75.—With. (7th edit.) v. ii. p. 141.—Gray's Nat. Arr. v. ii. p. 39.—Lindl. Syn. p. 247.—Hook. Brit. Fl. p. 386.—Sibth. Fl. Oxon. p. 25.—Abbot's Fl. Bedf. p. 200.—Davies' Welsh Bot. p. 84.—Purt. Midl. Fl. v. ii. p. 439.—Relh. Fl. Cant. (3rd edit.) p. 376.—Hook. Fl. Scot. p. 260.—Grev. Fl. Edin. p. 189.—Fl. Devon. pp. 146 & 114.—Johnst. Fl. of Berw. v. i. p. 198.—Rev. G. E. Smith's Pl. of S. Kent, p. 60.—Winch's Fl. of Northumb. and Durham, p. 58.—Walker's Fl. of Oxf. p. 265.—Perry's Pl. Varvic. Selectæ, p. 75.—Pamplin's Pl. of Battersea and Clapham, p. 16.—Bab. Fl. Bath. p. 53.—Mack. Catal. of Pl. of Irel p. 78.; Fl. Hibern. p. 263.—*Sparganium erectum* β. Linn. Sp. Pl. p. 1378.—Lightf. Fl. Scot. v. ii. p. 540, *the variety.—Sparganium non ramosum*, Ray's Syn. p. 437.—*Sparganium latifolium*, Johnson's Gerarde, p. 45.

Localities.—In pools, slow streams, and watery ditches, especially on a gravelly soil.

Fig. 1. A Head of sterile Flowers.—Fig. 2. A single sterile Flower.—Fig. 3. A Head of fertile Flowers.—Fig. 4. A single fertile Flower.—Fig. 5. A single Fruit.—Fig. 6. A transverse section of ditto.—Fig. 7. A Seed.

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* From *Sparganon*, Gr. a *band*, or *ribbon ;* from its long leaves, as in *Sparganium natans*. Withering. † See folio 83, note †.

Root creeping. *Stem* from 1 to 2 feet high, upright, round, solid, leafy, unbranched, smooth. *Root-leaves* long, strap-shaped, entire, triangular at the base, the intermediate spaces between the angles being flat; (not concave, as in *Sparganium ramosam;*) sword-shaped, and elongated in their upper part. *Stem-leaves* alternate, somewhat sheathing at the base. *Heads of Flowers* alternate, all sessile, on one common stalk, except the lowest one or two, which are sometimes elevated on a short partial stalk; those of the *sterile flowers* above, yellow; those of the *fertile ones* below, greenish. *Calyx* green, or not of so deep a brown as in *Spar. ramosum.* *Anthers* pale yellow. *Stigma* long, strap-shaped, mostly solitary.

Whole plant smooth, of a yellowish-green, and much smaller than *Sparganium ramosum*, except the flowers, which are larger than those of that species.—Mr. LIGHTFOOT, (like LINNÆUS,) comprehended this and *Spar. ramosum* under the common name of *erectum:* but he mentions the present species as the most common variety in Scotland.

The *Natural Order*, TYPHA'CEÆ, is composed of monocotyledonous *herbaceous plants*, growing in marshes, or ditches. Their *stems* are without nodi (knots). Their *leaves* rigid, sword-shaped, with parallel veins. Their *flowers* are monœcious, and arranged upon a naked spadix (figs. 1 & 2.) Their *perianth* (see folio 33, note ‡) is 3- or more-parted (figs. 2 & 4). Their *stamens* 3 or 6 in number; with long slender filaments; and wedge-shaped, upright *anthers* (fig. 2). The *ovary* (see fig. 4.) is single, superior, and 1-celled. The *ovule* solitary, and pendulous; the *style* short, with 1 or 2, simple, strap-shaped *stigmas*. The *fruit* (see figs. 5 & 6.) is dry, and indehiscent. with 1 cell and 1 seed. The *embryo*, which is contained in the centre of the *albumen*, is cylindrical, and straight, with a cleft in one side, in which lies the *plumule*, with the *radicle* next the *hilum*.

The order contains but two British genera, *Typha* and *Sparganium*.

"Little streams have flowers a many,
Beautiful and fair as any;
Typha strong, and green *Bur-reed;*
Willow-herb * with cotton-seed;
Arrow-head † with eye of jet,
And the *Water-violet* ‡;
There the *Flowering-rush* ‖ you meet,
And the plumy *Meadow-sweet* §;
And in places deep and stilly,
Marble-like, the *Water-lily* ¶."

MARY HOWITT.

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* *Epilobium*, see folio 14.
‡ *Hottonia palustris.*
§ *Spiræa ulmaria.*
† *Sagittaria sagittifolia*, folio 109.
‖ *Butomus umbellatus*, folio 34.
¶ *Nymphæa alba*, folio 181 & 182.

Scabiosa succisa. Devils bit Scabious. 4

L. Rufsell Del.

Published by W. Baxter, Botanic Garden, Oxford 1819

SCABIO'SA*.

Linnean Class and Order. TETRA'NDRIA†, MONOGY'NIA.

Natural Order. DIPSA'CEÆ‡, Juss. Gen. Pl. p. 194.—Lindl. Syn. p. 139.; Introduct. to Nat. Syst. of Bot. p. 196.—Rich. by Macgilliv. p. 457.—Loud. Hort. Brit. p. 520.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 680.—Mack. Fl. Hibern. p. 140.—SYRINGALES; subord. ASTEROSÆ; sect. VALERINÆ; type, DIPSACEÆ; Burn. Outl. of Bot. v. ii. pp. 900, 901, 916, & 918.—AGGREGATÆ, *Linn.*

GEN. CHAR. *Involucrum (common calyx)* (see fig. 6.) of many spreading leaves, surrounding the *common receptacle*, to which they are attached (see fig. 7). *Proper calyx* (see figs. 3, 4, & 5.) double; the *outer (involucellum*, Lindl.) mostly membranous, and plaited; the *inner (calyx*, Lindl.) (fig. 3.) with a limb consisting of 5 awned bristles, rarely only 1 or 4 from abortion. *Corolla* (figs. 1 & 2.) of each flower monopetalous, tubular, dilated upwards; limb in 4 or 5 equal, or unequal, segments. *Filaments* (see figs. 1 & 2.) 4, spreading, lax, from the mouth of the corolla, longer than its limb. *Anthers* oblong, incumbent. *Germen* inferior. *Style* thread-shaped. *Stigma* blunt, cloven. *Fruit* (figs. 4 & 5.) nearly cylindrical, crowned with the double calyx. *Common Receptacle* (fig. 7.) convex, chaffy.—Heads of Flowers depressed. Outer Flowers of the Heads usually radiant.

The many-leaved *involucrum;* the double *calyx*, the outer mostly membranous and plaited, the inner with about 5 bristles; will distinguish this from other genera, with a monopetalous, superior *corolla*, in the same class and order.—Differs from *Knautia*, in the limb of the inner calyx being attenuated into a neck at the base, and ending in 4 or 5 awned bristles.

Two species British.

SCABIO'SA SUCCI'SA. Devil's-bit Scabious.

SPEC. CHAR. Corolla in 4 equal segments. Heads of Flowers nearly globose. Stem-leaves distantly toothed.

Engl. Bot. t. 878.—Curt. Fl. Lond. t. —. Curt. Brit. Entomol. v. i. t. 40.—Linn. Sp. Pl. p. 142.—Huds. Fl. Angl. (2nd ed.) p. 62.—Willd. Sp. Pl. v. i. pt. 1. p. 548.—Sm. Fl. Brit. v. i. p. 170.; Engl. Fl, v. i. p. 194.—With. (7th ed.) v. ii. p. 217.—Lind. Syn. p. 139.—Hook. Brit. Fl. p. 61.—Lightf. Fl. Scot. v. i. p. 114—Sibth. Fl. Oxon. p. 55.—Abbot's Fl. Bedf. p. 29.—Davies' Welsh Bot. p. 14.—Purt. Midl. Fl. v. i. p. 95.—Relh. Fl. Cant. (3rd ed.) p. 56.—Hook. Fl. Scot. p. 49.—Grev. Fl. Edin. p. 34.—Fl. Devon. pp. 25 & 162.—Johnston's Fl. of Berw. v. i. p. 35.—Winch's Fl. of Northumbl. and Durh. p. 9.—Walker's Fl. of Oxf. p. 35.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 695.—Bab. Fl. Bath. p. 24.—Mack. Catal. of Pl. of Irel. p. 17.; Fl. Hibern. p. 141.—*Scabiosa radice succisa, flore globoso*, Ray's Syn. p. 191.—*Succisa Fuchsii*, Gray's Nat. Arr. v. ii. p. 476.—*Morsus Diaboli*, Johnson's Gerarde, p. 726.

Fig. 1. A single Flower.—Fig. 2. Corolla opened.—Fig. 3. The Calyx.—Figs. 4 & 5. The Fruit; fig. 5. *magnified.*—Fig. 6. Involucrum, and Seeds.—Fig. 7. Involucrum, and Receptacle, with one of the Scales.

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* From *scabies*, an eruptive disease, which certain species were supposed to cure. WITHERING.

† See folio 114, note †. ‡ See folio 179, *a*.

Localities.—In meadows and pastures, frequent.

Perennial.—Flowers from July to October.

Root oblong, blackish, nearly the thickness of the little finger, often growing obliquely; abrupt at the lower end, so as to appear as if bitten off, furnished with long whitish fibres. *Stem* from a foot to 18 inches high, upright, round, rough with deflexed hairs, and often of a reddish colour. *Root-leaves* numerous, inversely egg-shaped, entire, on short foot-stalks, clothed on both sides with long rough hairs. *Stem-leaves* opposite, connate, spear-shaped, variously toothed, or coarsely serrated; the uppermost nearly strap-shaped, and entire; all dark green, harsh and hairy. *Flowers* in nearly globular heads, on longish peduncles. *Involucrum* hairy, its leaves in 2 or 3 series (see fig 6). *Outer calyx (involucel)* 4-sided, with 4 shallow clefts, fringed with white hairs; *inner calyx* (see figs. 3 to 5) crowned with a concave, glandular receptacle, armed with 4 or 5 strong reddish-black bristles. *Corolla* (fig. 1.) dark purplish-blue, sometimes of a milk-white, very rarely of a pale purple. *Filaments* almost twice the length of the corolla; *anthers* violet; *pollen* white. *Germen* very small, whitish. *Style* about the same length as the corolla. *Stigma* round, flat, with a depression in the middle. *Seed* oblong, angular, grooved, beset with rough hairs, and crowned with 4 or 5 bristles. *Receptacle* conical, chaffy (see fig. 7).

Haller observes, that the leaves are sometimes gashed, and that the flowers are sometimes proliferous. In cultivation the plant becomes more branched than in a wild state. The root is a good example of what, in botanical language, is termed *Radix præmorsa*, a premorse, or abrupt root; this, however, according to Dr. Drummond, is only the case when the plant is above a year old, for during the first year it is fusiform (spindle-shaped); after that it becomes woody, dies, and rots, the upper part excepted, and this causes the eroded, or bitten-off appearance; while the new lateral branches shooting out from the part left, compensate the want of the old main root. Thus, says Dr. Withering, do science and truth dispel superstitious errors; for in ages darkened by monkery, the faithful were taught implicitly to believe, in respect to the pretended virtues of this plant, that "the Divell for envie that he beareth to mankind bitt it off, because it would be otherwise good for many uses;" hence the plant is commonly called *Devil's-bit*. This appearance of an abrupt or stumped root is not peculiar to this plant, but is observed in some species of *Plantago*, *Apargia*, *Valeriana*, and many other herbs. According to Bergius the root possesses an astringent quality, and the infusion of it is bitterish, but not unpleasant to the taste. Linnæus says, that the dried leaves are used to dye wool yellow or green.

The caterpillers of *Sesia Bombyliformis*, Curt. Brit. Entomol. v. i. t. 40. (*sphinx fuciformis*, γ. Gm. Linn. Syst. Nat. v. i. pt. v. p. 2388.) feeds upon this plant. See Mr. Curtis's very beautiful work referred to above.

Fumaria officinalis Common Fumitory. ⊙

C.J. Matthews del. &c. Pub.d by W. Baxter, Botanic Garden Oxford 1838

FUMA'RIA *.

Linnean Class and Order. DIADE'LPHIA †, HEXA'NDRIA.

Natural Order. FUMARIA'CEÆ ‡, *De Cand.*—Lindl. Syn. p. 18; Introd. to Nat. Syst. of Bot. p. 18.—Rich. by Macgilliv. p. 496.—Loud. Hort. Brit. p. 493.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 139.—PAPAVERA'CEÆ, sect. 2. Juss. Gen. Pl. p. 235.—Sm. Gram. of Bot. p. 137.—ROSALES; suborder, RHŒADOSÆ; sect. RHÆADINÆ; type, FUMARIACEÆ; Burn. Outl. of Bot. pp. 614, 784, 847, & 852.—CORYDALES, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 2 opposite, upright, small, membranous, deciduous sepals. *Corolla* (see fig. 2.) oblong, tubular, ringent, of 4 petals, the lower one strap-shaped and free, the upper ones united at the base, the intermediate one of the three being gibbous, or spurred at the base. *Filaments* (see fig. 3.) 2, awl-shaped, flat, shorter than the corolla, one within each lip. *Anthers* roundish, membranous, 3 terminating each *filament*. *Germen* (see fig. 4.) superior, somewhat compressed. *Style* (see fig. 4.) terminal, thread-shaped, deciduous. *Stigma* compressed, of 2 flat lobes. *Fruit* (figs. 5 & 6.) indehiscent, 1-seeded.

The *calyx* of 2 deciduous sepals; the *corolla* of 4 petals, with one of them gibbous or spurred at the base; the indehiscent, 1-seeded *fruit;* and the deciduous *style*, will distinguish this genus from others in the same class and order —It differs from the genus *Corydalis*, t. 190, in the *fruit* being indehiscent and 1-seeded, not 2-valved and many-seeded.

Three species British.

FUMA'RIA OFFICINA'LIS. Officinal Fumitory. Common Fumitory. Earth-Gall. Fumus Terræ.

SPEC. CHAR. Cluster rather loose. Pods (fruit) single-seeded, abrupt, on upright pedicels twice as long as the bracteas. Stem spreading. Leaves supra-decompound; lobes spear-shaped, or strap-shaped.

Engl. Bot. t. 589.—Curt. Fl. Lond. t. 112.—Woodv. Med. Bot. v. ii. p. 241. t. 88.—Mart. Fl. Rust. t. 68.—Curt. Brit. Entomol. v. ix. t. 404.—Linn. Sp. Pl. p. 984.—Huds. Fl. Angl. (2nd ed.) p. 309, exclud. var. β.—Willd. Sp. Pl. v. iii. pt. ii. p. 867.—Sm. Fl. Brit. v. ii. p. 750.; Engl. Fl. v. iii. p. 255.—With. (7th edit.) v. iii p. 824.—Gray's Nat. Arr. v. ii. p. 700.—Lindl. Syn. p. 19.—Hook. Brit. Fl. p. 317.—Lightf. Fl. Scot. v. i. p. 379.—Sibth. Fl. Oxon. p. 217.—Abb. Fl. Bedf. p. 152.—Thornton's Family Herbal, p. 627, with a figure.—Davies' Welsh Bot. p. 68.—Purt. Midl. Fl. v. i. p. 325.—Relh. Fl. Cant. (3rd edit.) p. 286.—Hook. Fl. Scot. p. 210.—Grev. Fl. Edin. p. 153.—Fl. Devon. pp. 118 and 191.—Johnst. Fl. of Berw. v. i. p. 156.—Winch's Fl. of Northumb. and Durh. p. 47.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 145.—Walker's Fl. of Oxf. p. 203.—Bab. Fl. Bath. p. 3.—Mack. Catal. of Pl. of Irel. p. 65.; Fl. Hibern. p. 16.— *Fumaria vulgaris*, Ray's Syn. p. 294.—*Fumaria purpurea*, Johnson's Gerarde, p. 1088.

LOCALITIES.—In cornfields, gardens, and about hedges; common.

Fig. 1. Calyx.—Fig. 2. A Flower.—Fig. 3. Stamens and Pistil.—Fig. 4. Germen, Style, and Stigmas.—Fig. 5. A Pod.—Fig. 6. Transverse section of the same.—Figs. 1, 2, 3, & 4, *a little magnified.*

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* From *fumus*, Lat. *smoke;* in allusion to the disagreeable smell of the plant; or, according to some, from the light and smoke-like cloudiness of its foliage.

† See folio 77, note †. ‡ See folio 190, *a*.

Annual.—Flowers from May to August.

Root slender, tapering, fibrous, of a yellowish-brown colour. *Stem* from 6, to 12, or 18 inches high, smooth, glaucous, much branched, spreading, often recumbent, leafy, angular. *Leaves* mostly alternate, stalked, twice or thrice pinnate; leaflets wedge-shaped, with flat spear-shaped segments. *Clusters* opposite to the leaves, spike-like, stalked, upright, many-flowered, rather loose. *Bracteas* spear-shaped, pointed, not half the length of the *flower-stalks*, especially when in fruit. *Flowers* rose-coloured, or pale red, tipped with deep red, with a green keel to the upper and under petals. *Spur* very short, rounded. *Calyx* coloured, toothed at the margin, deciduous. *Style* 3 or 4 times as long as the germen, crowned with the flattish, downy *stigma*. *Pod* globose, a little compressed, blunt or notched at the extremity, so as to be inversely heart-shaped, smooth, indehiscent (not opening). *Seed* solitary, roundish.

Whole *herb* of a sea-green colour, the leaves succulent, saline, and bitter. The expressed juice, in doses of 2 ounces, taken twice a-day in whey, is useful in hypochondriacal, scorbutic, and cachetic habits. It corrects acidity, and strengthens the stomach. HOFFMAN prefers it to all other medicines as a sweetener of the blood. There is no doubt of its utility in obstructions of the viscera, and diseases arising therefrom. An infusion of the leaves is used as a cosmetic to remove freckles and clear the skin. See WOODVILLE'S *Medical Botany;* WITHERING'S *Botanical Arrangement*, &c.

THE DEATH OF THE FLOWERS.

"How happily, how happily, the flowers die away;
Oh, could we but return to earth as easily as they!
Just live a life of sunshine, of innocence, and bloom,
Then drop, without decrepitude or pain, into the tomb.

The gay and glorious creatures! they neither "toil nor spin;"
Yet lo! what goodly raiment they're all apparelled in;
No tears are on their beauty, but dewy gems more bright,
Than ever brow of eastern queen endiadem'd with light.

The young rejoicing creatures! their pleasures never pall;
Nor lose in sweet contentment, because so free to all;
The dew, the showers, the sunshine, the balmy blessed air,
Spend nothing of their freshness, though all may freely share.

The happy, careless creatures! of time they take no heed,
Nor weary of his creeping, nor tremble at his speed;
Nor sigh with sick impatience, and wish the light away;
Nor when 'tis gone, cry dolefully, 'would God that it were day!'

And when their lives are over, they drop away to rest,
Unconscious of the penal doom, on holy Nature's breast;
No pain have they in dying, no shrinking from decay;
Oh! could we but return to earth as easily as they."

CAROLINE BOWLES.

Cotyledon Umbilicus. Wall Navelwort. 4

C.Hathers, Del & Sc. Publ.d by W.Baxter, Botanic Garden, Oxford. 1838.

COTYLE'DON*.

Linnean Class and Order. DECA'NDRIA†, MONOGY'NIA.

Natural Order. CRASSULA'CEÆ, *De Cand.*—Lindl. Syn. p. 63.; Introd. to Nat. Syst. of Bot. p. 161.—Rich. by Macgilliv. p. 514.—Loud. Hort. Brit. p. 516.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 97.—Mack. Fl. Hibern. p. 59.—CRA'SSULÆ, Juss. Dict. des. Sc. Nat. v. xi. p. 369.—SUCCULE'NTÆ, *Linn.*—Vent. Tabl. v. iii. p. 271.—SEMPERVIVÆ, Juss. Gen. Pl. p. 307.—Sm. Gram. of Bot. p. 162.—ROSALES; sect. CRASSULINÆ; type, CRASSULACEÆ; Burn. Outl. of Bot. v. ii. pp. 614, 730, & 735.

GEN. CHAR. *Calyx* (fig. 1.) inferior, small, of 1 petal, in 5, pointed segments. *Corolla* (see fig. 2.) of 1 petal, tubular, 5-cleft. *Nectary* a concave scale, at the base of each germen, on the outer side. *Filaments* (see figs. 2 & 3.) 10, awl-shaped, straight, inserted on the corolla, scarcely so long as the limb. *Anthers* roundish, 2-lobed. *Germens* (see fig. 4.) 5, oblong, rather tumid. *Styles* awl-shaped, shorter than the corolla. *Stigmas* simple. *Capsules* (see figs. 4 & 5.) 5, oblong, tumid, pointed, each of 1 valve, bursting along the inner margin (see fig. 5). *Seeds* (fig. 6.) numerous, small.

Distinguished from other genera, in the same class and order, by the 5-parted *calyx;* the monopetalous, tubular, 5-cleft *corolla;* and the 5 *capsules*, each with a gland or nectariferous scale at its base.

Two species British.

COTYLE'DON UMBILI'CUS‡. Common Navelwort. Wall Pennywort. Kidneywort. Hipwort.

SPEC. CHAR. Leaves peltate, crenate, depressed in the centre. Stem with a (usually) simple cluster of drooping flowers. Upper bracteas minute, entire.

Engl. Bot. t. 325.—Hook. Fl. Lond. t. 184.—Huds Fl. Angl. (2nd edit) p. 194.—Aiton's Hort. Kew. (1st edit.) v. ii. p. 107.—Willd. Sp. Pl. v. ii. pt. 1. p. 757.—Sm. Fl. Brit. v. ii. p. 484.; Engl. Fl. v. ii. p. 314.—With. (7th ed.) v. ii. p. 555.—Hook. Brit. Fl. p. 209.—Sibth. Fl. Oxon. p. 143.—Davies' Welsh Bot, p. 43.—Purt. Midl. Fl. v, i. p. 224.—Hook. Fl. Scot. p. 139.—Fl. Devon. pp. 75 & 185.—Rev. G. E. Smith's Pl. of South Kent, p. 27.—Walker's Fl. of Oxf. p. 125.—Perry's Pl. Varvic. Selectæ, p. 41.—Bab. Fl. Bath. p. 18.—Mack. Catal. of Pl. of Irel. p. 44.; Fl. Hibern. p. 60.—*Cotylédon Umbilicus Veneris β. tuberosa*, Linn. Sp. Pl. p. 615.—Lightf. Fl. Scot. v. i. p. 233.—*Cotylédon vera radice tuberosa*, Ray's Syn. p. 271.—*Umbilicus pendulinus*, De Cand. Pl. Grass. t. 156.; Bot. Gall. v. i. p. 201.—Gray's Nat. Arr. v. ii. p. 538.—Don's Gen. Syst. of Gard. & Bot. v. iii. p. 112.—*Umbilicus Veneris*, Johns. Ger. p. 528.

LOCALITIES.—Damp rocks, and old walls.—*Oxfordsh.* Iffley, Cowley, and on Godstow-Bride and Nunnery: Dr. SIBTHORP.—*Berks;* Stone walls about Abingdon: Mr. BICHENO. Abundant on old stone walls at South Hinksey: W. B.—*Cheshire;* Bidston: G. CROSFIELD, Esq. Near Knutsford, but not common: Mr. WILSON, in N. B. G.—*Cornwall;* Frequent about Penzance: Mr. WATSON, in N. B. G. Plentiful about Pillaton: H. WOOLLCOMBE, Esq.—

Fig. 1. Calyx.—Fig. 2. Corolla, opened vertically, to show the stamens.—Fig. 3. A single Stamen.—Fig. 4. Germens, Styles, and Stigmas.—Fig. 6. A single Capsule.—Fig. 7. Seeds.—Fig. 3. *magnified.*

* From *kotyle*, Gr. a *cup;* to which the leaves of some of the species bear a distant resemblance. HOOKER.

† See folio 37, note †.

‡ From *umbilicus*, Lat., the *navel;* from the hollow leaves.

Derbysh. Anchor Church, near Repton: Rev. A. Bloxam. Dove Dale and Hew-gill: Mr. Howitt, in N. B. G.—*Devon;* Walls, roofs, hedges, &c. common: *Fl. Devon.—Gloucestersh.* Walls at Bitton, common: Rev. H. T. Ellicombe. Leigh Wood, opposite the Hot Wells, Bristol: N. J. Winch, Esq. Near Bristol: Worsley, in N. B. G.—*Hampsh.* Between Southampton and Ringwood, by the road-side, abundant: Mr. W. Pamplin, jun. Banks by the road-side leading from Redbridge into the New Forest, plentifully: Mr. W. Pamplin, in N. B. G.—*Kent;* On Tenterden Church; and in a stone-pit at Boughton Monchelsea, near Feversham, very uncommon: E. Jacob, Esq. 1777. Upon a low stone wall, with *Asplenium Ceterach*, adjoining the point at which the Canterbury, Cheriton, Broadmead, and Folkstone roads meet. Upon the wall of the east gate of Winchelsea: Rev. G. E. Smith.—*Lancash.* On old walls about Liverpool: Mr. Shepherd.—*Leicestersh.* Swithland slate-pits, very rare: Rev. A. Bloxam.—*Northamptonsh.* On an old wall at Peterborough, beyond Almoner's Gate; in a close on a sandy bank near Church Brampton; by the road to Chapel Brompton: in Northampton; and about Delapre, near Northampton: Morton.—*Shropsh.* Quatford and Rowton, on the walls by the turnpike road: T. Purton, Esq. Common on most of the hills near Shrewsbury: W. A. Leighton, in N. B. G. Old stone walls by the road between Shrewsbury and Ellesmere: Rev. A. Bloxam. Wet rocks on Caer Carradock: H. Darby, in N. B. G.—*Somersetsh.* On old walls at Monckton Farley, Kelston, Swainswick, Inglishcombe, &c.: C. C. Babington. Common on damp walls, rocks, and old thatched roofs, in the neighbourhood of Bridgwater, and around the Quantocks: J. C. Collins, in N. B. G.—In *Sussex:* W. Borrer, Esq.—*Warwicksh.* Maxtock Priory, and Coleshill: Rev. W. T. Bree. On the walls of the area of Guy's Cliffe-house. In the Old Pound, Coten-end, Warwick: Mr. W. G. Perry.—*Westmoreland;* About Troutbeck: Hudson.—*Worcestersh.* In the fissures of the greenstone and granitic rocks at Malvern. Growing very luxuriantly in a lane leading to the Giant's Grave, at Habberley, near Kidderminster: Mr. E. Lees, in *Illust.*—On Picket Rock, and about Foxholes, near Kidderminster: *Mag. Nat. Hist.—Yorksh.* Near Mulholm, six miles from Halifax: N. J. Winch, Esq. Wall near East Witton: Miss E. Otter, in N. B. G.—WALES. In *Anglesey; Carnarvonshire; Denbighshire; Merionethshire;* and *Montgomeryshire.*—SCOTLAND; *Isle of Man;* counties of *Argyle; Ayr;* and *Inverness.*—IRELAND; frequent.

Perennial.—Flowers from June to October.

Root a roundish knob, with several woolly fibres. *Stem* from 6 inches to a foot high, purplish, rounded, simple or branched; leafy in the lower part. *Leaves* scattered, thick, fleshy, circular, with central leaf-stalks, concave on the upper surface, with a hollow dimple nearly in the centre, just opposite to the insertion of the petiole underneath; upper *leaves* with the petiole not fixed so nearly in the centre, and their margins more deeply cut. *Flowers* drooping, in long terminating clusters, each on a short stalk, with a small spear-shaped, entire *bractea* at its base. Segments of the *Calyx* egg-spear-shaped. *Corolla* tubular, somewhat 5-sided, yellowish-green. *Nectaries* red. *Stamens* short, in two rows, in the mouth of the corolla.

Whole plant smooth and succulent. " Its peculiar and elegant appearance," as Dr. Withering observes, " renders it a fit subject for rock-work." A variety with large bracteas, longer than the flowers, the racemes terminated by a rose-like cluster of leaves, is recorded by Mr. Watson (in his New Botanist's Guide, p. 8.) as having been gathered on rocks by the Logan-Stone, Cornwall. In stunted specimens the flowers are sometimes nearly upright; and in very luxuriant ones the clusters of flowers have often several lateral branches.

I Rufsell Del.

W Wellis Sc.

Alchemilla vulgaris. Lady's Mantle. 4

Published by W Baxter Botanic Garden, Oxford 1838

ALCHEMI'LLA *.

Linnean Class and Order. TETRA'NDRIA †, MONOGY'NIA.

Natural Order. ROSA'CEÆ; sect. SANGUISORBEÆ‡; Juss. Gen. Pl. pp. 334 & 336.—Sm. Gram. of Bot. pp. 171 & 172.—Lindl. Syn. pp. 88 & 102.—Rich. by Macgilliv. pp. 528 & 530.—Loud. Hort. Brit. p. 512.—Mack. Fl. Hibern. pp. 85 & 105.—SANGUISORBEÆ, Lindl. Introd. to Nat Syst of Bot. p. 80.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 589.—ROSALES; sect. ROSINÆ; subsect. ROSIANÆ; type, SANGUISORBACEÆ; Burn. Outl. of Bot. pp. 614, 683, 699, & 707.—SENTICOSÆ, *Linn.*

GEN. CHAR. *Calyx* (figs. 1, 2, & 3.) inferior, of 1 sepal, tubular, permanent; tube rather contracted at the apex; limb spreading, in 8 segments, the 4 outer alternate ones smallest. *Corolla* none. *Filaments* (see fig. 3.) 4, from the mouth of the calyx, opposite to the smaller segments, awl-shaped, short. *Anthers* roundish, minute. *Germen* (see fig. 4.) in the bottom of the calyx, generally solitary. *Style* (see fig. 4.) from the base of the germen, thread-shaped, about the length of the stamens (see fig. 3). *Stigma* capitate. *Fruit* (see fig. 4.) 1- or 2-seeded, surrounded by the permanent calyx. *Seed* inverted.

The inferior, 8-cleft *calyx*, the 4 outer segments smallest; the want of a *corolla;* and the 1- or 2-seeded *fruit*, surrounded by the permanent calyx; will distinguish this from other genera in the same class and order.

Three species British.

ALCHEMI'LLA VULGARIS. Common Lady's Mantle §. Lion's-foot. Lion's-paw. Great Sanicle. Bear's-foot.

SPEC. CHAR. Leaves roundish, kindney-shaped, plaited, many-lobed, serrated.

Engl. Bot. t. 597.—Hook. Fl. Lond. t. 210.—Curt. Brit. Entom. v. iv. t. 185.—Linn. Sp. Pl. p. 178.—Huds. Fl. Angl. (2nd ed.) p. 71.—Willd. Sp. Pl. v. i. pt. 1. p. 698.—Sm. Fl. Brit. v. i. p. 189.; Engl. Fl. v. i. p. 223.—With. (7th ed.) v. ii. p. 243.—Gray's Nat. Arr. v. ii. p. 576.—Lindl. Syn. p. 103.—Hook. Brit. Fl. p. 70.—Lightf. Fl. Scot. v. i. p. 120.—Sibth. Fl. Oxon. p. 61.—Abbot's Fl. Bedf. p. 36. t. 1.—Davies' Welsh Bot. p. 17.—Purt. Midl. Fl. v. i. p. 102. t. 1. and vol. iii. p. 339.—Relh. Fl. Cantab. (3rd edit.) p. 66.—Hook. Fl. Scot. p. 56.—Grev. Fl. Edin. p. 39.—Fl. Devon. pp. 29 & 172.—Johnst. Fl. of Berwick, v. i. p. 39.—Winch's Fl. of Northumb. and Durh. p. 10.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 590.—Walker's Fl. of Oxf. p. 42.—Perry's Pl. Varvic. Selectæ, p. 14.—Bab. Fl. Bath. p. 15.—Mack. Catal. of Pl. of Irel. p. 19.; Fl. Hibern. p. 105.—*Alchimilla*, Ray's Syn. p. 158.—Johnson's Ger. p. 949.

LOCALITIES.—In dry, rather mountainous pastures.

Figs. 1 & 2. Calyx.—Fig. 3. Front View of a Flower, showing the Stamens, Pistil, and fleshy ring, or nectary, which closes its mouth.—Fig. 4, Germen, Style, and Stigma.—Figs. 2, 3, & 4, *more or less magnified.*

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* From the Arabic *alkemelyeh, alchemy;* from its pretended alchemical virtues. HOOKER. † See folio 46, note †.

‡ This section is raised to the rank of an order, by Dr. LINDLEY, in consequence of the plants, which compose it, having apetalous *flowers;* an indurated *calyx;* and only one *carpel.*

§ From the plaiting and regularity of its leaves, giving an appearance of a Lady's Mantle. THORNTON.

Perennial.—Flowers in June, July, and August.

Root somewhat woody, fibrous, *Stem* from 4 to 8 inches or a foot high, more or less procumbent, alternately branched, round, hairy, leafy. *Radical-leaves* numerous, large, and elegant, on long petioles (foot-stalks), roundish kidney-shaped, bluntly lobed, serrated; of a bright pleasant green above, paler and most hairy below; *stem-leaves* much smaller, nearly sessile, with a pair of large, notched *stipulas* to each. *Flowers* numerous, yellowish-green, terminating the stem in little corymbose clusters. *Flower-stalks* nearly capillary, smooth. Mouth of the *Calyx* closed by a yellow, fleshy ring. *Germens* 1 or 2. *Seeds* 1 or 2. *Styles* lateral.

This is one of the most elegant of our native plants, and is not uncommon in dry upland pastures in many parts of Britain; it is also occasionally found in low moist meadows; I have seen it in such situations between Yarnton and Cassington, near Oxford, but very sparingly. It varies much in hairiness and smoothness, as well as in size and stature. The whole plant is astringent and slightly tonic. The leaves were formerly used in medicine, and were esteemed to be vulnerary. In the province of Smolandia, in Gothland, a tincture is made from the leaves, and given in spasmodic or convulsive diseases. Horses, sheep, and goats eat it; swine refuse it; cows are not fond of it.—" The Rev. S. DICKENSON gives the following curious account of its pernicious effects on cows: ' Being lately on a visit to Somerford, the Hon. E. MONCTON requested me to examine the herbage of a meadow near the river Penk, in which he had the misfortune, a few years ago, to have five milking cows die suddenly at once, and several more were with difficulty recovered. The symptoms of the disease, which he attributed to some noxious plant, were irremediable obstruction in the bowels. Upon examination, I found a very unusual abundance of *Alchemilla vulgaris* in every part of the field; and am inclined to believe this plant was the cause of the fatality, as it is known to be of a very astringent quality. It was the aftermath the herd depastured; and the survivors, upon being introduced into the same field the Summer following, were immediately affected with similar symptoms, but removed in time to prevent the fatal consequences; since which Mr. MONCTON has never hazarded the depasturing of it by neat cattle.'". Dr. WITHERING.

" ——— ——— ——— Let us read
The living page, whose ev'ry character
Delights and gives us wisdom. Not a tree,
A plant, a leaf, a blossom, but contains
A folio volume. We may read, and read,
And read again, and still find something new,
Something to please, and something to instruct,
E'en in the noisome weed.

HURDIS.

Russell Del.

Nuphar lutea. Yellow Water lily. 4

W. Willis sc

Published by W. Baxter, Botanic Garden, Oxford. 1838

Russell Del. W. Wales Sc

Nuphar lutea . 4

Published by W. Baxter, Oxford, 1838.

NU'PHAR*.

Linnean Class and Order. POLYA'NDRIA †, MONOGY'NIA.

Natural Order. NYMPHÆA'CEÆ, *De Cand.*—Lindl. Syn. p. 15.; Introd. to Nat. Syst. of Bot. p. 10.—Rich. by Macgilliv. p. 415.—Loud. Hort. Brit. p. 497.—NYMPHIA'CEÆ, Don's Gen. Syst. of Gard. and Bot. v. i. p. 122.—NYMPHÆEÆ, *Salisbury*, in Annals of Bot. v. ii. p. 69.—HYDROCHARIDES, Juss. Gen. Pl. p. 67.—Sm. Gram. of Bot. p. 84.—ROSALES; suborder, RHŒADOSÆ; sect. RANUNCULINÆ; subsect. NELUMBIANÆ; type, NYMPHÆACEÆ; Burn. Outl. of Bot. v. ii. pp. 614, 784, 828, 844, & 845.

GEN. CHAR. *Calyx* (see t. 281, and t. 282, f. 1. *a*.) inferior, of 5 or 6 large, coriaceous, concave, coloured, petal-like, permanent sepals. *Corolla* (see t. 282, f. 1. *b*. and f. 2.) of from 10 to 18 oblong petals, much smaller than the sepals, furrowed and honey-bearing at the back, and inserted along with the numerous stamens into a disk which surrounds the base of the germen. *Filaments* (see t. 282, figs. 1 and 3.) very numerous, unconnected with the germen, strap-shaped, of 2 parallel cells, closely attached to the inner surface of the upper part of each filament. *Germen* superior, nearly sessile, egg-shaped, with an elongation at the summit. *Style* none. *Stigma* (see t. 282, f. 1.) sessile, orbicular, convex, entire or notched, with many central radiating clefts. *Berry* (see t. 282, figs. 5—7.) superior, coriaceous, smooth, egg-shaped, pointed; of as many cells as there are rays to the stigma, finally pulpy within. *Seeds* (t. 282, f. 8.) numerous, smooth, egg-shaped, in several rows in each cell.

The *calyx* of 5 or 6 sepals; the *corolla* of numerous petals, inserted, along with the stamens, upon the receptacle; and the superior, many-celled, many-seeded *berry;* will distinguish this from other genera in the same class and order.

It differs from the genus *Nymphæa* (t. 181 & 182.) in the petals and the stamens being inserted into a disk at the base of the germen, not into one which surrounds and adheres to the side of it, (see t. 182).

Two species British.

NU'PHAR LU'TEA. Common Yellow Water-Lily. Yellow Water-Can. Brandy-Bottles.

SPEC. CHAR. Calyx of 5 sepals. Border of the Stigma entire. Footstalks 2-edged. Leaves heart-shaped, their lobes meeting each other.

Hook. Fl. Lond. t. 141.—Smith's Prod. Fl. Græc. v. i. p. 361.; Engl. Fl. v. iii. p. 15.—With. (7th ed.) v. iii. p. 653.—Gray's Nat. Arr. v. ii. p. 706.—Lindl. Syn. p. 15.—Hook. Brit. Fl. p. 260.—Fl. Scot. p. 169.—Grev. Fl. Edin. p. 120.—Fl. Devon. pp. 91 and 192.—Johnst. Fl. of Berw. v. i. p. 120.—Winch's Fl. of

Tab. 282.—Fig. 1. A Flower, with 4 of the sepals removed; *a*. a sepal; *b*. petals.—Fig. 2. A Petal.—Fig. 3. A Stamen.—Fig. 4. A Berry, with the permanent calyx.—Fig. 5. The same with the calyx removed.—Fig. 6. A transverse section of a Berry.—Fig. 7. A vertical section of the same.—Fig. 8. Seeds.

* From *naufar*, or *nyloufar*, the Arabic name of *Nympha'a*. DON.

† See folio 43, note †.

Northumb. and Durh. p. 36.—Rev. G. E. Smith's Pl. of S. Kent, p. 30.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 127.—Walker's Fl. of Oxf. p. 149.—Bab. Fl. Bath. p. 3.—Mack. Catal. of Pl. of Irel. p. 51.; Fl. Hibern. p. 12.—*Nymphæa lutea*, Engl. Bot. t. 159.—Johnson's Gerarde, p. 819.—Ray's Syn. p. 368.—Linn. Sp. Pl. p. 729.—Huds. Fl. Angl. (2nd ed.) p. 234.—Sm. Fl. Brit. v. ii. p. 569.—Willd. Sp. Pl. v. ii. pt. 11. p. 1151.—With. (5th edit.) v. iii. p. 598.—Lightf. Fl. Scot. v. i. p. 282.—Sibth. Fl. Oxon. p. 167.—Abbot's Fl. Bedf. p. 117.—Davies' Welsh Bot. p. 53.—Purt. Midl. Fl. v. i. p. 251.—Relh. Fl. Cant. (3rd ed.) p. 214.

LOCALITIES.—In watery ditches, lakes, and slow rivers; frequent.

Perennial.—Flowers in June and July.

Trunk of the *root* large and fleshy, horizontal, producing, from its under side, many long, stout radicles, which are fibrous at the extremity. *Leaves* on long, 2-edged footstalks (petioles), floating, 10 or 12 inches wide, entirely smooth and even, bright green above, paler underneath, with branched raised nerves or veins, heart-shaped, rounded at the summit, and generally at the lobes, which meet and lap over each other. *Flowerstalks* nearly or quite cylindrical, 1-flowered. *Flower* about two inches wide. *Calyx* much larger than the corolla, of five roundish, blunt, upright, concave sepals, which are entire, somewhat sinuated, smooth, tough, and of a golden yellow, except at the base on the outside, where they are green. *Corolla* of from 10 to 20, small, blunt, fleshy, orange-coloured petals (see t. 282, f. 1, *b*). *Stamens* very numerous, when the flower first opens pressed closely on the germen, but after they have shed their pollen bending back; *filaments* yellowish, thicker than the anthers, which are yellow, and about two lines in length. *Germen* egg-shaped, blunt, smooth. *Style* none. *Stigma* yellow, a little convex, with from about 10 to 15 rays. *Fruit* large, smooth, shaped like a bottle or flagon, terminated by the flat, dilated stigma. *Seeds* numerous, large. The flowers smell like brandy, whence they are called Brandy-bottles in some places.

This species is a native throughout the whole of Europe and Siberia, in ditches, lakes, and slow rivers; also of N. America, between latitude 54°. and 64°. The roots, bruised and infused in milk, are said to be destructive to beetles and cock-roaches; they are also sometimes burned, to get rid of crickets, to which the smoke is peculiarly obnoxious. Swine will eat this plant; goats are not fond of it; cows, sheep, and horses refuse it.—Dr. WITHERING says, that an infusion of a pound of the fresh root to a gallon of water, taken in the dose of a pint, night and morning, cured a leprous eruption of the arm.

The *Natural Order*, NYMPHÆA'CEÆ, is composed of dicotyledonous, herbaceous, aquatic *plants*, whose leaves are peltate or heart-shaped, and their flowers mostly large and very beautiful, each on a long cylindrical peduncle. The *sepals* and *petals* are numerous, imbricated, and pass gradually into each other, the former persistent, the latter inserted upon the disk which surrounds the pistillum. The *stamens* are numerous, and inserted above the petals into the disk; their *filaments* flattish; their *anthers* adnate, strap-shaped, and burst inwards by a double longitudinal cleft. The *disk* is large and fleshy, and surrounds the ovary either wholly or in part. The *ovary* is many-seeded, and many-celled, with the stigmas radiating from a common centre upon a sort of flat urceolate cap. The *fruit* is many-celled, and indehiscent. The *seeds*, which are very numerous, are attached to spongy dissepiments, and enveloped in a gelatinous arillus. The *albumen* is farinaceous. The *embryo* small, on the outside of the base of the albumen, enclosed in a membranous bag. *Cotyledons* foliaceous. See *Lindley's Synopsis*, p. 15.

THE CHERWELL WATERLILLY.[1]

Bright came the last departing gleam
To lonely Cherwell's silent stream,
And for a moment seemed to smile
On tall St. Mary's[2] graceful pile.
But brighter still the glory stood
On Marston's[3] wild sequestered wood.
The lights that through the leaves were sent,
Of gold and green were richly blent;—
Oh! beautiful they were to see
Gilding the trunk of many a tree,
Just as the colours died away
In evening's meditative gray;
Sweet meadow-flowers were round me spread,
And many a budding birch-tree shed
Its woodland perfume there;
And from its pinky-clustered boughs
A fragrance mild the Hawthorn throws
Upon the tranquil air.
Deep rung St. Mary's stately chime
The holy hour of vesper time,
And as the solemn sounds I caught,
Over the distant meadows brought,
I heard the raptured nightingale
Tell from yon elmy grove[4] his tale
Of jealousy and love,
In thronging notes that seemed to fall
As faultless and as musical
As angels strains above;
So sweet they cast o'er all things round
A spell of melody profound;
They charmed the river in his flowing,
They stayed the night wind in his blowing,
They lulled the Lily to her rest
Upon the Cherwell's heaving breast.
How often doth a wild flower bring
Fancies and thoughts that seem to spring
From inmost depths of feeling!
Nay, often they have power to bless
With their uncultured loveliness:
And far into the aching breast
There goes a heavenly thought of rest
With their soft influence stealing.
How often, too, can ye unlock,
Dear wildings, with a gentle shock,
The fountains of the heart,
And bid Religion sweetly rise
Before the mourner's tearful eyes
To do her holy part.

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[1] This very beautiful Poem appeared in Blackwood's *Edinburgh Magazine* for November, 1836.

[2] The Church of St. Mary the Virgin, Oxford.

[3] A small village on the banks of the Cherwell, about a mile N. E. from Oxford.

[4] Magdalen College Grove, the East side of which is bounded by a branch of the river Cherwell.

Ah! surely such strange power is given
To lowly flowers, like dew from heaven,
For lessons oft by them are brought
Deeper than mortal sage hath taught—
Lessons of wisdom pure that rise
From some clear fountain in the skies.
Fairest of Flora's lovely daughters
That bloom by stilly-running waters,
Fair Lily![5] thou a type must be
Of virgin love and purity!
Fragrant thou art as any flower
That decks a lady's garden bower;
But he who would thy sweetness know,
Must stoop and bend his loving brow
To catch thy scent so faint and rare,
Scarce breathed upon the Summer air;
And all thy motions too—how free,
And yet how fraught with sympathy;
So pale thy tint, so meek thy gleam,
Shed on thy kindly father stream.
Still as he swayeth to and fro
How true in all thy goings,
As if thy very soul did know
The secret of his flowings.
And then that heart of living gold[6]
Which thou doth modestly enfold,
And screen from man's too piercing view
Within thy robe of snowy hue.
To careless minds thou seemst to roam
Abroad upon the river;—
In all thy movements chained to home,
Fast rooted there for ever;
Linked by a holy, hidden tie,
Too holy for a mortal's eye,
Nor riveted by mortal art,
Deep down within thy father's heart!
Emblem in truth thou art to me
Of all a woman ought to be!
How shall I liken thee, sweet Flower!
That other men may feel thy power,
May seek thee on some lovely night,
And say how strong, how chaste the might,
The tie of filial duty—
How graceful too, and angel bright
The pride of lowly beauty?
Thou sittest on the varying tide,
As if thy spirit did preside,
With a becoming queenly grace,
As mistress of this lonely place.
A quiet magic hast thou now
To smooth the river's ruffled brow,
And still his rippling water—
And yet so delicate and airy,
Thou art to him a very fairy,
A widowed Father's only daughter.

FRED. WM. FABER.

Univ. Coll.

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[5] *Nymphæa alba*, t. 181.

[6] See t. 182, fig. 1, c.; and fig. 2, c.

Trifolium pratense. Common purple Trefoil. 4

J. Russell Del. Pub.d by W. Baxter Botanic Garden Oxford 1837. C. Mathews Sc.

TRIFO'LIUM *.

Linnean Class and Order. DIADE'LPHIA †, DECA'NDRIA.

Natural Order. LEGUMINO'SÆ, Juss. Gen. Pl. p. 345.—Sm. Gram. of Bot. p. 174.—Lindl. Syn. p. 75.; Introd. to Nat. Syst. of Bot. p. 87.—Rich. by Macgilliv. p. 532.—Sm. Engl. Fl. v. iii. p. 259.—Loud. Hort. Brit. p. 509.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 91.—LEGUMINA'CEÆ, Loud. Arb. Brit. p. 561.—PAPILIONA'CEÆ ‡, *Linn.*—ROSALES; sect. CICERINÆ; subsect. LOTIANÆ; type, LOTACEÆ; subtype, LOTIDÆ; Burn. Outl. of Bot. pp. 614, 638, 642, & 644.

GEN. CHAR. *Calyx* (fig. 1.) inferior, tubular, permanent, 5-cleft, not glandular; with awl-shaped segments. *Corolla* (fig. 2.) of 4 petals, which are mostly united by their long claws, permanent, withering; standard (fig. 3.) reflexed; wings (see figs. 2, 4, & 5.) oblong, direct, shorter than the standard; keel of 1 petal, shorter than the wings and standard. *Filaments*, (see fig. 6.) 9 in one split compressed tube; the tenth hair-like, distinct (see fig. 7). *Anthers* roundish. *Germen* (see fig. 7.) oblong-egg-shaped. *Style* (see fig. 7.) awl-shaped, curved upwards. *Stigma* simple, smooth. *Legume* (fig. 8.) small, indehiscent, often egg-shaped, with 1 or 2 seeds, shorter than the calyx by which it is covered, seldom oblong, with 3 or 4 seeds, and a little longer than the calyx. *Flowers* in dense heads or spikes, bracteate, purple, white, or cream-coloured.

Distinguished from other genera with diadelphous stamens, in the same class and order, by the 1-celled, 1- or 2-seeded, rarely 3- or 4-seeded, indehiscent *pod*, shorter than the calyx; the awl-shaped *style* with a simple, smooth stigma; and the capitate or densely-spiked inflorescence.

It differs from the genus *Melilotus* in the *flowers* being produced in a head or close spike, not in a loose raceme; and in the *legume* being shorter than the calyx, not longer.

Seventeen species British.

TRIFO'LIUM PRATENSE. Meadow Trefoil. Common Purple Clover. Honeysuckle Trefoil. Marle Grass.

SPEC. CHAR. Stems ascending. Heads of Flowers dense, egg-shaped. Teeth of the Calyx setaceous, lower one longer than the rest, half as long as the tube of the corolla. Stipulas egg-shaped, bristle-pointed.

Engl. Bot. t. 1770.—Mart. Fl. Rust. t. 3.—Linn. Sp. Pl. p. 1082.—Huds. Fl. Angl. (2nd ed.) p. 325.—Willd. Sp. Pl. v. iii. pt. II. p. 1366.—Sm. Fl. Brit. v. ii. p. 785.; Engl. Fl. v. iii. p. 302.—With. (7th ed.) v. iii. p. 857.—Gray's Nat. Arr. v. ii. p. 599.—Lindl. Syn. p. 80.—Hook. Brit. Fl. p. 328.—Lightf. Fl. Scot. v. i. p. 404.—Sibth. Fl. Oxon. p. 228.—Abb. Fl. Bedf. p. 162.—Afzelius in Linn. Soc.

Fig. 1. Calyx.—Fig. 2. Calyx and Corolla.—Fig. 3. The same, with the wings and keel taken off.—Fig. 4. The Wings and keel.—Fig. 5. One of the Wings, a little enlarged.—Fig. 6. Stamens and Pistil.—Fig. 7. Pistil, and odd Stamen.—Fig. 8. Legume.—Fig. 9. The same opened vertically, showing the Seed.—Fig. 10. A Seed.

* From *treis*, Gr. *three*; and *phyllon*, Gr. a *leaf*; descriptive of its ternate leaves. Dr. WITHERING. Or from the Latin *tri*, *three*; and *folium*, *leaf*.—It is the badge of the Highland clan SINCLAIR.

† See folio 77, note †. ‡ See folio 117, note ‡.

Trans. v. i. pp. 221 & 240.—Davies' Welsh Bot. p. 71.—Purt. Midl. Fl. v. i. p. 343.—Relh. Fl. Cant. (3rd ed.) p. 300.—Sinel. Hort. Gram. Wob. p. 221. with a plate.—Hook. Fl. Scot. p. 218.—Grev. Fl. Edin. p. 160.—Fl. Devon. pp. 124 and 176.—Johnst. Fl. of Berw. v. i. p. 163.—Winch's Fl. of Northumb. and Durh. p. 49.—Walker's Fl. of Oxf. p. 213.—Don's Gen. Syst. of Gard. & Bot. v. ii. p. 183.—Bab. Fl. Bath. p. 12.—Mack. Catal. of Plants of Irel. p. 67.; Fl. Hibern. p. 77.—*Trifolium pratense purpureum*, Ray's Syn. p. 328.

Localities.—In meadows and pastures, especially on a limestone or gravelly soil.

Perennial.—Flowers from May to September.

Root rather woody, and somewhat tap-shaped, branching at the crown, ash-coloured, its fibres often bearing minute fleshy granulations. *Stems* ascending, a foot or more high, slightly branched, unequally leafy, roundish; clothed, in the upper part, with close fine hairs. *Leaves* alternate, on longish petioles, ternate; *leaflets* of the lower leaves roundish, those of the upper elliptical, more or less acute, entire, nearly smooth, dark green, usually with a whitish angular mark in the centre. *Stipulas* membranous, egg-shaped, broad, nerved, smooth, each terminating in a short bristle-shaped point. *Heads* terminal, solitary, egg-shaped, obtuse, dense, situated between a pair of nearly sessile leaves, and in part surrounded by their stipulæ; *flowers* in each head very numerous, sweet-scented, of a light purple colour, rarely white. *Calyx* short, slightly hairy, generally scored with red veins; segments awl-shaped, the 4 upper ones usually equal; the 5th, or lowermost one, the longest. *Corolla* of 1 petal, tube long, standard much longer than the wings and keel. *Legume* roundish, small, and thin. *Seeds* kidney-shaped, compressed, yellowish.

The white-flowered variety of this species is rare; I have seen it in a pasture about four miles from Oxford, on the right hand side of the new road to Ensham; and also in a field on the left hand side of the road going from Rugby to Brownsover, Warwickshire, a few yards from the new Aqueduct over the road.

Trifolium pratense is well known to the farmer as one of the most valuable *artificial grasses*, as they are called, for fodder or hay, as it yields the largest crop of all the other sorts. For particulars relating to its history, mode of culture, uses, &c. see *Miller's Gard. Dict.* by Martyn; *The Transactions of the Linnean Society*, v. i. pp. 221 & 240., and v. vi. pp. 142 & 147.; *Don's Gen. Syst. of Gard. and Bot.* v. ii. p. 183—185.; and *Baxter's Library of Agricultural and Horticultural Knowledge*, p. 173.

The heads are used in Sweden to dye wool green; with alum they give a light, with copperas a dark green.

We are informed by Dr. Johnston, in his excellent *Flora of Berwick-upon-Tweed*, that "in the days when there were witches in the land, the leaf of the Trefoil was worn by knight and by peasant, as a potent charm against their wiles; and we can even yet trace this belief of its magic virtue in some not unobserved customs. Hast thou never sought, and deemed thyself fortunate in finding a four-leaved clover?

> 'But woe to the wight who meets the green knight,
> Except on his faulchion arm,
> Spell proof he bear, like the brave St. Clair,
> The *holy Trefoil's* charm;
>
> For then shall fly his gifted eye,
> Delusions false and dim;
> And each unbless'd shade shall stand pourtray'd,
> In ghostly form and limb.'"

Sphæria Trifolii, and *Polythrincia Trifolii*, are parasitic on the leaves of this and some other species of *Trifolium*, about Oxford.

Littorella lacustris. Plantain Shore-weed. 4

C. Mathews Del. & Sc. Publ.d by W. Baxter Botanic Garden Oxford 1838

LITTORE'LLA *.

Linnean Class and Order. MONŒCIA †, TETRA'NDRIA.

Natural Order. PLANTAGI'NEÆ, *Dr. R. Brown.*—Lindl. Syn. p. 169.; Introd. to Nat. Syst. of Bot. p. 194.—Rich. by Macgilliv. p. 428.—Loud. Hort. Brit. p. 530.—Mack. Fl. Hibern. p. 174.—PLANTAGINES, Juss. Gen. Pl. p. 89.—Sm. Gram. of Bot. p. 93.—SYRINGALES; subord. PRIMULOSÆ; sect. PLANTAGINÆ; type, PLANTAGINACEÆ; Burn. Outl. of Bot. v. ii. pp. 900, 958, 1026, and 1027.

GEN. CHAR. *Sterile Flower* (figs. 1, 2 & 3). *Calyx* (see figs. 1 & 2.) of 4, egg-shaped, upright, acute sepals. *Corolla* (see fig. 2.) of 1 petal, tubular, permanent; tube the length of the calyx, rather tumid; limb in 4 deep, equal, egg-shaped, pointed, moderately spreading segments, finally membranous. *Filaments* (fig. 3.) 4, from the bottom of the tube, hair-like, very long, at first doubled inward, then upright, equal, finally flaccid. *Anthers* (see fig. 4.) upright, heart-shaped, of 2 cells, bursting lengthwise. *Fertile Flower* (see figs. 6 & 7.) sessile. *Calyx* 3-parted. *Corolla* (figs. 5, 6, & 7.) of 1 petal, membranous, permanent, pitcher-shaped, contracted at the mouth, with obsolete toothings. *Germen* superior, elliptic-oblong, very small. *Style* (figs. 6 & 7.) thread-shaped, upright, very long. *Stigma* simple, pointed. *Capsule* (fig. 8.) 1-celled, 1-seeded.

The 4-sepaled *calyx;* the 4-cleft *corolla;* and very long *filaments*, of the *sterile flowers;* the 3-parted *calyx;* the pitcher-shaped *corolla*, contracted at the mouth; the very long *style;* and the 1-seeded *capsule*, of the *fertile flowers;* will distinguish this from other genera in the same class and order.

One species British.

LITTORE'LLA LACU'STRIS. Lake Shore-weed. Plantain Shore-weed.

SPEC. CHAR.

Eng. Bot. t. 468.—Hook. Fl. Lond. t. 168.—Linn. Mant. p. 295.—Huds. Fl. Angl. (2nd ed.) p. 415.—Willd. Sp. Pl. v. iv. pt. 1. p. 330.—Sm. Fl. Brit. v. iii. p. 1011.; Engl. Fl. v. iv. p. 130.—With. (7th ed.) v. ii. p. 229.—Gray's Nat. Arr. v. ii. p. 295.—Lindl. Syn. p. 170.—Hook. Brit. Fl. p. 401.—Lightf. Fl. Scot. v. ii. p. 571.—Davies' Welsh Bot. p. 89.—Purt. Midl. Fl. v. ii. p. 457.—Relh. Fl. Cant. (3rd ed.) p. 390.—Hook. Fl. Scot. p. 271.—Grev. Fl. Edin. p. 200.—Rev. G. E. Smith's Pl. of S. Kent, p. 64. t. 1. f. 2.—Fl. Devon. pp. 153 and 141.—Johnst. Fl. of Berw. v. i. p. 204.—Winch's Fl. of Northumb. and Durh. p. 61.—Perry's Pl. Varvic. Selectæ, p. 77.—Mack. Catal. of Pl. of Irel. p. 81.; Fl. Hibern. p. 176.—*Plantago uniflora*, Linn. Sp. Pl. p. 167.—*Plantago palustris gramineofolio, monanthos, parisiensis*, Ray's Syn. p. 316.—*Subularia repens, folio minus rigido*, Dill. in Linn. Corresp. v. ii. p. 136.—*Subularia repens, foliis convexo planis*, Dill. Musc. p. 542. t. 81.

LOCALITIES.—In watery sandy places, especially about the margins of lakes and pools.—*Bucks;* Langley Heath.—*Cambridgesh.* Gamlingay Bogs.—In

Fig. 1. Calyx of Sterile Flower.—Fig. 2. Calyx and Corolla of ditto.—Fig. 3. Stamens.—Fig. 4. Anther.—Fig. 5. Corolla of Fertile Flower.—Fig. 6. Calyx, Style, and Stigma.—Fig. 7. Two Fertile Flowers, at the base of the flower-stalk of a Sterile Flower.—Fig. 8. A Capsule.

* From *littus*, Lat. *the shore;* from its place of growth.
† See folio 46, note †.

Cheshire.--*Cornwall;* in a watery lane near Penzance.—*Cumberland;* Ullswater; Cullgaith Moor, School, and Mr. Carlyle's Land; Low Holm Mine; foot of Derwentwater; Loweswater; Crummock Lake; and Buttermere.—*Devon;* Bovey Heathfield; Sandy Plat, near Widdecombe-in-the-Moor; Bogs on Woodbury Hill; Haldon; and on the margin of the great pool near the sea between Slapton and Torcross.—*Dorset;* Wareham Heath near Sherford Bridge and Sandford Bridge; and between Wareham and Woodbury Hill; near the road, not far from the two milestone going from Wimbourne to Poole.—*Hants;* In the margin of Woolmer Ponds, near Selbourne.—*Kent;* Upon the bank and the sides of the Baptist Pond, Brabourne Leas.—*Lancash.* Crosby Marsh, near Liverpool.—*Middlesex;* Bogs on Harefield Common; and on Hounslow Heath in many places, particularly in the ditch on the S. side of Whitton Gardens.—*Norfolk;* Muddy margins of several of the broads, abundant.—*Northamptonsh.* Kelmarsh Lane.—*Northumberland;* At Prestwick Car, and on the shores of Bromley and Greenley Loughs; also by Holy Island Lough; by Roadley Lake; and by Hoseley Lough.—In *Nottinghamshire.*—*Shropsh.* Ellesmere Mere.—*Suffolk;* Oulton Broad, by Lowestoft; at Cavenham; Salt Waters at Benacre near the sea; and on Belton Common.—*Surrey;* Battersea Common; Hedge Court Pond, E. Grimstead; and ponds on Esher Common, near the grounds of Claremont—*Sussex;* Horsham Common; Plummer's Plain; Tilgate Ponds; and Pilt Down.—*Worcestersh.* Pensnett Reservoir, near Stourbridge.—*Yorksh.* Downholme Moor; Scarborough Mere; Stockton Common, and Terrington Car; wet places on Hutton Moor; and on Blackmoor, near Leeds.—In many parts of WALES, SCOTLAND, and IRELAND.

Perennial.—Flowers in June, July, and August.

Root somewhat fleshy, tap-shaped, with many simple fibres; as well as some horizontal runners from the crown. *Stem* none. *Leaves* all radical, ascending, strap-shaped, entire, semicylindrical, and fleshy, from 1 to 4 inches long, usually smooth, sometimes rough with hairs. *Scapes* several, from 1 to 3 inches long, bearing *sterile* or *stameniferous flowers*, their 4 filaments very long and weak. *Fertile Flowers* 2, sometimes 3, sessile, in the axils of the leaves, at the base of the stalk of the sterile flower (see fig. 7). *Style* long, thread-shaped, white. *Capsule*, or *Nut*, (fig. 8.) small, elliptic, brown, dotted, covered by the corolla (fig. 5).—Mr. GRIFFITH observes, that "this plant is truly amphibious, growing in most of the lakes of N. Wales several feet under water, but it never flowers except when on shore, or in water about one inch in depth," I find this to be the case also with plants which have, for several years, been cultivated in the aquarium of the Oxford Garden.

The *Natural Order* PLANTAGINEÆ consists of Herbaceous *plants*, which are usually stemless. Their *leaves* are flat and ribbed, or taper and fleshy. Their *flowers* usually perfect, seldom separated; spiked, rarely solitary. The *calyx* is 4-parted and persistent. The *corolla* monopetalous, hypogynous, and persistent, with a 4-parted limb. The *stamens* are 4, and are inserted into the corolla, alternately with its segments; the *filaments* are thread-shaped, and doubled inwards in æstivation; the *anthers* are versatile and 2-celled; the *ovary* is sessile, 2-, very seldom 4-celled; the *ovule* peltate or erect, solitary, twin, or indefinite; the *style* is simple and awl-shaped, with a simple, hispid *stigma;* the *capsule* is membranous, and opens transversely; the *seeds* are sessile, peltate, or erect, solitary, twin, or indefinite; these have a mucilaginous *testa;* an *embryo* in the axis of fleshy albumen; an inferior *radicle;* and an inconspicuous *plumula*. See *Lindl. Syn.*

The only other British genus in this order is *Plantago*, t. 207.

Rutsell Del. W. Ellis sc.

Melittis Melissophyllum. Bastard-balm. 4.

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MELI'TTIS*.

Linnean Class and Order. DIDYNA'MIA†, GYMNOSPE'RMIA‡.

Natural Order. LABIA'TÆ§, Juss. Gen. Pl. p. 110.—Sm. Gram. of Bot. p. 99.; Engl. Fl. v. iii. p. 63.—Bentham, in Bot. Regist. (1829).—Lindl. Syn. p. 196.; Introd. to Nat. Syst. of Bot. p. 239.—Rich. by Macgilliv. p. 439.—Loud. Hort. Brit. p. 528.—Mack. Fl. Hibern. p. 209.—VERTICILLATÆ of *Linnæus.*—SYRINGALES; suborder, PRIMULOSÆ; sect. MENTHINÆ; type, MENTHACEÆ or LABIATÆ; subtype, NEPETIDÆ; Burn. Outl. of Bot. v. ii. pp. 900, 958, 968, & 973.

GEN. CHAR. *Calyx* (fig. 1.) inferior, bell-shaped, large, slightly angular, somewhat 2-lipped, with 3 or 4 broad lobes. *Corolla* (fig. 2.) ringent, tube much narrower than the calyx; throat a little dilated; upper lip erect, rounded, entire, slightly concave; lower lip spreading, in 3, deep, blunt lobes, the middle one largest, inversely heart-shaped. *Filaments* (fig. 3.) 4, awl-shaped, straight, shorter than the upper lip of the corolla, the two intermediate ones shortest. *Anthers* 2-lobed, converging in pairs, forming a double cross. *Germen* (fig. 3, *a.*) in 4, blunt, downy lobes. *Style* (fig. 5.) thread-shaped, reaching to the anthers (see fig. 3). *Stigma* cloven, pointed. *Seeds* (fig. 6.) 4, oval, small, in the bottom of the open unaltered calyx.

The large, bell-shaped *calyx*, with 3 or 4 broad lobes; and the much exserted *corolla*, with the upper lip nearly flat and entire; and the lower one of 3, rounded, nearly equal lobes, will distinguish this from other genera in the same class and order.

One species British.

MELI'TTIS MELISSOPHY'LLUM. Melissa-leaved Bastard Balm. Large-flowered Bastard Balm.

SPEC. CHAR. Leaves oblong-egg-shaped, or somewhat heart-shaped. Upper lip of the calyx with 2 or 3 teeth.

Engl. Bot. t. 577.—Curt. Fl. Lond. t. —Jacq. Fl. Aust. v. i. p. 18. t. 26.—Linn. Sp. Pl. p. 832.—Hnds. Fl. Angl. (2nd edit.) p. 264.—Willd. Sp. Pl. v. iii. pt. 1. p. 157.—Sm. Fl. Brit. v. ii. p. 643; Engl. Fl. v. iii. p. 111.—With. (7th ed.) v. iii. p. 723.—Lindl. Syn. p. 205.; 2nd edit. p. 202.—Hook. Brit. Fl. p. 280.—Fl. Devon. pp. 102 & 146.—*Melittis grandiflora*, Engl. Bot. t. 636.—Sm. Fl. Brit. v. ii. p. 644.; Engl. Fl. v. iii. p. 112.—Gray's Nat. Arr. v. ii. p. 386.—*Melissa Fuchsii*, Ray's Syn. p. 242.—*Melissa Fuchsii, flore purpureo;* and *M. Fuchsii, flore albo*, Johnson's Gerarde, p. 690.

LOCALITIES.—In woods, coppices, and hedges, in the South and South-west of England.—*Cornwall;* Road-side between Liskeard and Callington: Dr. WITHERING. Near Liskeard on hedges in the road to Lostwithiel: DAWSON TURNER, Esq.—*Devonsh.* Woods about Totness: RAY. In the Southams, particularly in Hempston Wood: Mr. CORNISH. Dartington Woods; Canonteign Woods, in the road to Brampford-Speke, beyond Sir Stafford Northcote's Pillars on the left hand, not far from the blacksmith's shop: Mr. WESTON. A small

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Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. Stamens, Germen, Style, and Stigma.—Fig. 4. A single Stamen.—Fig. 5. Style and Stigma.—Fig. 6. Seed.—Figs. 3. 4, & 5, *a little magnified.*

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* From *Melitta*, Gr. a *Bee;* it being productive of honey, and grateful to that insect. WITHERING.

† See folio 31, note †. ‡ Ibid, note ‡. § See folio 94, *a.*

wood not far from Kingsweare, near Dartmouth: Miss Burgis. Woods near Biddeford; and near Hall: Dr. Wavell. Woods near Ugbrooke. Buckland and Spitchwick Woods. Rora and Pen Woods; Ilsington. Hayes Wood near Budleigh. Road between Taphouse and Crediton; and about Tedburne. Sandridge Wood, and about Torquay: *Fl. Devon.* Woods at Leemouth: Mr. Watson, in N. B. G. Common in most coppices in every part of the county: Rev. Dr. Beeke. By the road-side at Hall, near Barnstable: Mr. W. Curtis. A mile from Ashburton on the road to Plymouth in the hedges, in great plenty: Dawson Turner, Esq. The last two localities belong to *M. grandiflora* of E. Bot. On Hilsboiough Hill, near Ilfracombe, not far from the sea: Miss Down.—*Hampshire;* In the New Forest, and near Netley Abbey: Hudson.—*Southampton:* N. J. Winch, Esq.—*Sussex;* In St. Leonard's Forest, going down into Isemonger's Gill, by the cross-road from Hand Cross to the Horsham road: W. Borrer, Esq.—WALES. *Pembrokeshire;* Woods about Haverfordwest: Ray.

Perennial.—Flowers in May and June.

Root fibrous, somewhat creeping. *Stem* from a foot to 18 inches high or more, upright, simple, square, rough with spreading hairs. *Leaves* opposite, on short petioles, egg-shaped, somewhat pointed, an inch and a half or two inches long, copiously and equally serrated, veiny, wrinkled, slightly hairy; paler beneath; petiole concave above, hairy. *Flowers* large and handsome, 1, 2, or 3 in the axil of each leaf, on round, simple peduncles, of about the same length as the petioles, all turned one way, the peduncles frequently crossing each other. *Calyx* large, somewhat 2-lipped, reticulated with hairy veins, coloured, fringed, the margin gaping, in 3 or 4 irregular lobes, the upper one usually the longest, and often with a single notch at each side. *Corolla* twice or thrice the length of the calyx, downy, white, stained with purple, except the middle lobe of the lower lip, which is a deep reddish-purple edged with white.

Melittis Melissophyllum, and *M. grandiflora*, (Engl. Bot. t. 577, & t. 636.) are considered by the most eminent Botanists of the present day to be mere varieties of the same species. Dr. Withering says, "On further examination of specimens from Devonshire and other parts, we much doubt the permanency of any specific distinction in Smith's *M. grandiflora*, (E. t. 636, said to grow in most coppices of Devon and Cornwall; as the road-side between Liskeard and Callington, and a mile from Ashburton on the road to Plymouth). The character attempted to be established, of 'calyx three-lobed,' in *M. Melissophyllum;* and 'calyx four-lobed,' in *M. Grandiflora*, appears to be far from invariable. Curtis declares the divisions of the lips of the calyx to be 'altogether inconstant.'" The Rev. J. P. Jones, and J. F. Kingston, Esq. authors of *Flora Devoniensis*, observe, "We suspect that *M. Melissophyllum* and *M. Grandiflora* are the same plants. In the habitats where the former is said to grow, we have found the plant described in Smith's *Fl. Brit.* by the name of *M. grandiflora*. As we have never found but one species of *Melittis* in the county, we have retained the old specific name *(Melissophyllum)*. Dr. Smith's specific distinction, respecting the division of the lobes of the calyx, is altogether fallacious; on the same plant we have observed the calyx both 3- and 4-lobed." *Fl. Devon.* p. 102. The Rev. J. S. Tozer is also of opinion that the two plants of English Botany are only varieties of the same species. This gentleman tells us, (Hook. *Brit. Fl.* p. 281), that he resided many years at Totness, in which neighbourhood the *M. Melissophyllum* is said to grow; and there he found a plant identical with that which still grows "a mile from Ashburton in the road to Plymouth:"—the habitat given in *English Botany* for *M. grandiflora*. Mr. Tozer met with this plant also in the woods of Pembrokeshire, and in almost every individual he examined the calyx was to be found in every state, 3-lobed, 4-lobed, and in every intermediate gradation.—The plant when growing has a rather strong disagreeable smell, but when dry it smells like new hay.

J. Russell Del. *Cerastium arvense. Field Chickweed. 4* W. Wilson sc.

Published by W. Baxter Botanic Garden Oxford 1838

CERA'STIUM*.

Linnean Class and Order. DECA'NDRIA†, PENTAGY'NIA.

Natural Order. CARYOPHY'LLEÆ‡, *Linn.*—Juss. Gen. Pl. p. 299.—Sm. Gram. of Bot. p. 159.—Lindl. Syn. p. 43.; Introd. to Nat. Syst. of Bot. p. 156.—Rich. by Macgilliv. p. 507.—Loud. Hort. Brit. p. 501.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 379.—Mack. Fl. Hibern. p. 40.—ROSALES; subord. RHŒADOSÆ; sect. DIANTHINÆ; type, DIANTHACEÆ; Burn. Outl. of Bot. pp. 614, 784, 805, & 807.

GEN. CHAR. *Calyx* (figs. 1 & 2.) inferior, of 5, egg-spear-shaped, pointed, spreading, permanent sepals, membranous at the edges. *Corolla* (fig. 3.) of 5, divided, obtuse, spreading petals, about the length of the calyx, (sometimes longer,) with broad, very short, claws (see fig. 4). *Filaments* (fig. 5.) 10, 5, or 4, thread-shaped, shorter than the corolla; alternate ones shortest. *Anthers* roundish, 2-lobed. *Germen* (see figs. 5 & 6.) egg-shaped, superior, sessile. *Styles* (see fig. 6,) 5, rarely but 4, short. *Stigmas* bluntish, downy. *Capsules* (figs. 7 & 8.) membranous, cylindrical or egg-shaped, of 1 cell, opening with twice as many upright teeth as there are *styles*. *Seeds* (fig. 2.) numerous, roundish, rough. *Flowers* of all white.

Distinguished from other genera, in the same class and order, by the *calyx* of 5 sepals; the *corolla* of 5 cloven petals; and the 1-celled, many-seeded *capsule*.

Eight species British.

CERA'STIUM ARVE'NSE. Field Chickweed.

SPEC. CHAR. Leaves strap-spear-shaped, bluntish; fringed at the base. Petals twice as long at the calyx. Capsule oblong, scarcely longer than the calyx.

Engl. Bot. t. 93.—Curt. Fl. Lond. t. —Curt. Brit. Entom. v. vi. t. 254.—Linn. Sp. Pl. p. 628.—Huds. Fl. Angl. (2nd ed.) p. 201.—Willd. Sp. Pl. v. ii. pt. 1. p. 813.—Sm. Fl. Brit. v. ii. p. 499.; Engl. Fl. v. ii. p. 333.—With. (7th ed.) v. ii. p. 566.—Lightf. Fl. Scot. v. i. p. 241.—Sibth. Fl. Oxon. p. 147.—Abb. Fl. Bedf. p. 102.—Purt. Mid. Fl. v. i. p. 220.; and v. iii. p. 359.—Relh. Fl. Cant. (3rd ed.) p. 185.—Hook. Fl. Scot. p. 143.—Grev. Fl. Edin. p. 104.—Johnst. Fl. Berwick, v. i. p. 102.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 446.—Walker's Fl. of Oxf. p. 130.—Mack. Catal. of Pl. of Irel. p. 45; Fl. Hibern. p. 49.—*Stellária arvénsis*, Gray's Nat. Arr. v. ii. p. 660.—*Caryophy'llus arvénsis hirsutus flore majore*, Ray's Syn. p. 348.—*Caryophy'llus Holostius*, Johns. Ger. p. 595.

LOCALITIES.—In fields, and on banks and hillocks, on a gravelly or chalky soil; frequent.—*Oxfordsh.* Between the Parks and Wolvercot; Stanton Harcourt; and between Witney and Burford: Dr. SIBTHORP. Road crossing the Hundred Acres, Bullingdon: Rev. R. WALKER, B. D. Between Elsfield and Noke Lane; at the back of the Red Lion, in Stow Wood, near Oxford; and

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Fig. 1. Calyx.—Fig. 2. Calyx, Stamens, and Pistils.—Fig. 3. Corolla.—Fig. 4. A Petal.—Fig. 5. Stamens, Germen, and Pistils.—Fig. 6. Germen, Styles, and Stigmas.—Fig. 7. Capsule.—Fig. 8. A vertical section of the same, showing the central placenta or receptacle of the Seeds.—Fig. 9. Seeds.—Figs. 2 & 4 *a little magnified*.

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* From *keras*, Gr. a *horn*; from the rather long and curved capsules of some species. Sir W. J. HOOKER.

† See folio 37, note τ. ‡ See *Buffonia annua*, folio 152, *a*.

abundant among stones by the road-side between Witney and Minster Lovel: 1831, W. B.—*Berks;* Pretty common: Dr. Mavor.—*Bedfordsh.* Kempston; Ford-End; and Barton Hill: Rev. C. Abbot.—*Cambridgesh.* Castle Hill, Cambridge; Hill of Health; Gogmagog Hills, &c.: Rev. R. Relhan.—In *Derbyshire:* Dr. Howitt, in N. B. G.—*Durham;* At Friar's Goose near Gateshead; on dry banks and heaths near Darlington; on Fulwell Hills; Marsden Rocks; and near Chester Bridge: N. J. Winch, Esq.—*Gloucestersh.* On Broad-way Hills: Rev. W. S. Rufford, in *Midl. Fl.*—*Hampsh.* Abbaston Downs, and elsewhere: Mr. W. Pamplin, jun. in N. B. G.—*Kent;* Barham Downs, abundantly: Mr. W. Pamplin, jun. Not uncommon, *Fl. Ton.*—*Middlesex;* By the Thames, below Hampton Court Bridge: Mr. H. Watson, in N. B. G.—*Norfolk;* Fields near Norwich: S. P. Woodward, in N. B. G.—*Northamptonsh.* In Brixworth and Boughton Fields, particularly near the highways: *Hist.* N. B. G.—*Northumberland;* On banks near the Chain Bridge over the Tweed; at Horncliffe; near Coldstream; and on St. Peter's Quay, where it was observed by Wilson: N. J. Winch, Esq. Near King's Mount Bastion; and Castle Bank, Berwick: Dr. Thompson. On Spittal and Scremmerston Links: Dr. Johnston. On Alnwick Moor: Mr. J. Davison. Near Wark on Tweed: Lightfoot. Near Bambro' Castle: R. Embleton.—*Notts.* Radford, Farnsfield, Nottingham Park and Forest, Bulwell, and Mansfield: Dr. Howitt, in N. B. G.—*Suffolk;* About Bury, very plentiful: Mr. W. Curtis.—*Surrey;* Dupper's Hill, near Croydon: Dr. Withering. On Banstead Downs, and near Ham: Mr. W. Pamplin, jun. Moulsey Hurst, near the Ferry to Hampton: Mr. Watson, in N. B. G.—In *Sussex;* W. Borrer, Esq.—*Yorksh.* Limestone Hills, South of Scarborough: N. J. Winch, Esq. Richmond: Mr. Ward, in N. B. G.—WALES. *Denbighsh.* Near Wrexham, not common: J. E. Bowman, Esq. in N. B. G.—SCOTLAND. *Aberdeensh.* Near Aberdeen: Mr. Dickie, in N. B. G.—*Berwicksh.* Common on all the borders between Berwick-upon-Tweed and Kelso: Dr. Johnston.—*Elginsh.* Springfield, Elgin: Rev. G. Gordon, in N. B. G.—*Forfarsh.* Near Forfar: Mr. D. Don.—*Haddingtonsh.* Guillon Links: Mr. Arnott.—*Isle of Man;* On the sand, scarce: Mr. Forbes, in N. B. G.—*Nairnsh.* Viewfield: W. Stables, in N. B. G.—*Orkney Isles;* Orkney: Dr. Gillies, in N. B. G.—*Roxburghsh.* Foot of walls near Wark, by Kelso, abundant: Lightfoot.—IRELAND. Very common in the *County of Dublin*, near the coast: Mr. J. T. Mackay.

Perennial.—Flowers from May to August.

Root creeping. *Stems* numerous, slightly branched, leafy, round, covered with fine hairs, which bend downwards; prostrate and matted at the base; then ascending; from 4 inches to a foot in length. *Leaves* opposite, sessile, strap-spear-shaped, from half an inch to an inch long, various in breadth, bluntly pointed, for the most part densely hairy, the hairs pointing upwards; sometimes smooth, but always fringed about the lower part. *Flowers* large, white, in terminal, forked *panicles*. *Sepals* hairy, with a membranous margin. *Petals* inversely heart-shaped, veiny, twice as long as the sepals. *Germen* globose. *Capsule* cylindrical, slender, not longer than the calyx, with 10 oblong teeth, sometimes splitting down into 5 or 10 narrow valves.

The large flowers, with petals twice the length of the calyx; and the powerfully creeping roots; will distinguish this from all the other British species of *Cerastium*.

Lonicera Periclymenum. Common Woodbind. ħ

C. Mathews, Del. & Sc. Pub.d by W. Baxter Botanic Garden, Oxford. 1838.

LONICE'RA *.

Linnean Class and Order. PENTA'NDRIA †, MONOGY'NIA.

Natural Order. CAPRIFOLIA'CEÆ ‡, *Dec.*; sect. LONICEREÆ; Lindl. Syn. p. 131.; Introd. to Nat. Syst. of Bot. pp. 206 & 207.—Rich. by Macgilliv. p. 460.—Loud. Hort. Brit. p. 519.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 435.—Mack. Fl. Hibern. p. 133.—CAPRIFOLIA; sect. 1.; Juss. Gen. Pl. pp. 210 & 211.—Sm. Gram. of Bot. pp. 129 & 130.—SYRINGALES; subord. ASTEROSÆ; sect. RUBIACINÆ; type, CAPRIFOLIACEÆ; Burn. Outl. of Bot. v. ii. pp. 900, 901, & 902.—AGGREGATÆ, *Linnæus.*

GEN. CHAR. *Calyx* (see fig. 1.) superior, small, of 1 sepal, in 5 deep segments, permanent. *Corolla* (fig. 2.) of 1 petal, tubular, tube oblong, swelling at one side; limb in 5 deep revolute segments, one of them more deeply separated than the rest. *Filaments* (see fig. 2.) 5, awl-shaped, inserted into the upper part of the tube, and about equal to the limb. *Anthers* incumbent, oblong. *Germen* (see fig. 1.) roundish, inferior. *Style* (fig. 3.) thread-shaped, reclining, about the length of the corolla. *Stigma* bluntly capitate. *Berry* (fig. 5.) roundish, with a concave scar, of 1 or more cells, sometimes double and confluent. *Seeds* (fig. 5.) several, roundish, compressed.

Distinguished from other genera, in the same class and order, by the irregular *corolla;* and the 1- to 3-celled, many-seeded *berry.*

Three species British.

LONICE'RA PERICLY'MENUM §. Woodbine. Woodbind. Common Honeysuckle. Caprifoly.

SPEC. CHAR. Branches twining. Leaves all separate, deciduous. Heads of Flowers egg-shaped, imbricated, terminal. Corolla ringent.

Engl. Bot. t. 800.—Curt. Fl. Lond. t. —Linn. Sp. Pl. p. 247.—Huds. Fl. Angl. (2nd ed.) p. 94.—Willd. Sp. Pl. v. i. pt. II. p. 894.—Sm. Fl. Brit. v. i. p. 260.; Engl. Fl. v. i. p. 326.—With. (7th edit.) v. ii. p. 309.—Hook. Brit. Fl. p. 103.—Lightf. Fl. Scot. v. i. p. 143.—Sibth. Fl. Oxon. p. 81.—Abb. Fl. Bedf. p. 49.—Davies' Welsh Bot. p. 24.—Purt. Midl. Fl. v. i. p. 124.—Relh. Fl. Cant. (3rd ed.) p. 98.—Hook. Fl. Scot. p. 80.—Grev. Fl. Edin. p. 55.—Fl. Devon. pp. 41 & 164.—Johnst. Fl. of Berw. v. i. p. 62.—Winch's Fl. of Northumb. and Durh. p. 15.—Walker's Fl. of Oxf. p. 65.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 445.—Loud. Arb. et Frut. Brit. p. 1043.—Mack. Catal. of Pl. of Irel. p. 24.; Fl. Hibern. p. 133.—Bab. Fl. Bath. p. 22.—Phillips' Sylva Florifera, v. i. p. 293.—Moral of Flowers, (2nd ed.) p. 104. t. 16.—*Caprifólium Periclymenum*, Lindl. Syn. p. 131.—*Caprifolium Germanicum*, Ray's Syn. p. 458.—*Pericly'menum vulgare*, Gray's Nat. Arr. v. ii. p. 488.—*Pericly'menum*, Johnson's Gerarde, p. 891.

LOCALITIES.—In woods, thickets, and hedges; common.

Shrub.—Flowers in June, July, and August.

Fig. 1. Germen and Calyx.—Fig. 2. Corolla, opened vertically, and deprived of its lower lip.—Fig. 3. Style and Stigma.—Fig. 4. A Bunch of Berries.—Fig. 5. A separate Berry.—Fig. 6. A Seed.

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* So named in honour of ADAM LONICER, a German Botanist, who was born in 1528, and died in 1588.

† See folio 18, note †. ‡ See folio 128, *a*.

§ From *peri*, round about; and *kulio*, to roll; in allusion to its habit of winding itself round every tree and shrub within its reach, and binding them together.

Stem woody, round, smooth, pale brown, branched, twining from left to right, or according to the apparent motion of the sun, and climbing, where it meets with support, to a considerable hight. *Branches* opposite, cylindrical, often more or less purple. *Leaves* opposite, all separate, egg-shaped, blunt, attenuated at the base; mostly sessile, or slightly stalked, entire, more or less hairy, rarely smooth, darkish green above, pale underneath. *Flowers* in terminal, somewhat egg-shaped heads; reddish on the outside, yellowish within, but they vary much in colour, between red, purple, and yellow, and in the shade are often very pale; they are very fragrant, especially in the evening. *Calyx* small, distinctly 5-toothed. *Corolla* gaping, tube about an inch long, a little curved; border 2-parted, both parts reflexed, the upper one divided into 4 blunt and nearly equal segments, the lower one strap-shaped and entire. *Stamens* and *Pistil* very conspicuous. *Berries* nearly globular, deep red, bitter and nauseous; often roughish; accompanied by permanent *bracteas*. A variety of this (Caprifolium non perforatum, foliis sinuosis, *Ray's Syn.* p. 458.) with sinuated leaves, like those of the Oak, is sometimes met with in a wild state. It was found first near Oxford, by Mr. JENNER, before 1666; (see *Merr. Pin.* 92.) and afterwards by Mr. KNOWLTON, in the way from Hitchim to Wembly. Mr. WOODWARD found it in Norfolk, in the woods of Lord WODEHOUSE; and I have observed it in Bagley Wood, Berks; in Headington-Wick Copse, near Oxford; and in a hedge about a mile from Rugby, in Warwickshire, on the left hand side of the road to Lawford.

The early writers attribute virtues to the *Woodbine* which are now quite given up; but the beauty and exquisite fragrance of the flowers make it a favourite plant in gardens and shrubberies. I never remember to have seen it in greater profusion than in the neighbourhood of Rugby; almost every hedge in the vicinity of that pleasant town is, in the months of June and July, "o'ercanopied" with wreaths of its odoriferous flowers, whose perfume being of the most agreeable kind, renders a walk into the fields, at that season of the year, truly delightful. Happy, says Dr. WITHERING, the disposition which can derive mental improvement from the contemplation of each varied production of nature; enviable the feeling which can delight to connect with objects so pleasing as flowers the characters of those we love. The present subject suggests to the amiable author of the "Wonders of the Vegetable Kingdom," an elegant emblematical compliment to her friend. "Behold yourself,—in the fragrant *Woodbine*. Its scent may be compared to a fountain of affection, always flowing, always full. It is not the flower of a day, nor does the passing of a cloud occasion any difference; but its sweets continue, and even emit a richer perfume, when the heavy shower is descending."

A small fungus, *Æcidium Periclymeni*, DEC., is parasitic on the leaves of this plant in the vicinity of Oxford, in the Summer.

Some interesting information relating to the common *Woodbine* may be seen in Mr. LOUDON's *Magazine of Nat. History*, v. vi. pp. 330 & 331.; and also in his excellent work, the *Arboretum et Fruticetum Britannicum*, pp. 1013 to 1015.

C. Mathews Del.

Poa annua : Annual Meadow-grass.

W. Willis sc.

Published by W. Baxter, Botanic Garden, Oxford 1838

PO'A*.

Linnean Class and Order. TRIA'NDRIA†, DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 86.; Engl. Fl. v. i. p. 71.—Lindl. Syn. p. 293.; Introd. to Nat. Syst. of Bot. p. 292.—Rich. by Macgilliv. p. 393.—Loud. Hort. Brit. p. 542.—Mack. Fl. Hibern. p. 294.—GRAMINA, *Linn.*—GRAMINALES; sect. FESTUCINÆ; type, AVENACEÆ; Burn. Outl. of Bot. v. i. pp. 359 & 369.

GEN. CHAR. *Panicle* loose. *Spikelets* (fig. 1.) egg-shaped, imbricated. *Calyx* (fig. 2.) of 2 equal, awnless, pointed, egg-shaped, folded, keeled *glumes*, containing several awnless, alternate, 2-ranked, perfect *florets* (see fig. 3.), which are often connected at their base by a condensed web, of long, white, cottony filaments. *Corolla* (see fig. 3.) of 2 unequal *paleæ;* the outer egg-shaped, pointed, strongly keeled, compressed, sometimes ribbed, entire, more or less membranous at the summit, as well as at the edges, which are flat, not reflexed; inner narrower, with 2 nearly marginal ribs, the edges membranous, inflexed, the summit cloven. *Nectary* a deeply cloven scale. *Filaments* (see fig. 3.) 3, hair-like, longer than the corolla. *Anthers* pendulous, oblong, cloven at each end. *Germen* (see fig. 4.) egg-shaped. *Styles* (see fig. 4.) very short. *Stigmas* (see fig. 4.) spreading, feathery, in several species repeatedly branched. *Seed* (fig. 5.) elliptic-oblong, pointed, somewhat angular, loose, covered with the unchanged corolla, and sometimes woolly at the base with the permanent web above described.

The loose *panicle;* the egg-shaped, compressed, many-flowered *spikelets;* the *calyx* of 2 glumes, shorter than the florets; the *corolla* of 2, egg-shaped, awnless paleæ; and the loose, elliptic-oblong *seed;* will distinguish this from other genera in the same class and order.

Nine species British. (SMITH'S *Engl. Fl.*)

PO'A A'NNUA. Annual Meadow-grass. Suffolk-grass.

SPEC. CHAR. Panicle somewhat unilateral, widely spreading. Spikelets oblong-egg-shaped, of about 5 florets, which are a little remote, 5-ribbed, without a web. Culm ascending, compressed. Root fibrous.

Engl. Bot. t. 1141.—Curt. Fl. Lond. t. 6.—Knapp's Gram. Brit. t. 52.—Mart. Fl. Rust. t. 98.—Host. Gram. Austr. v. ii. p. 46. t. 64.—Grav. Brit. Grass. t. 67.—Sincl. Hort. Gram. Wob. p. 400, with a plate.—Linn. Sp. Pl. p. 99.—Huds. Fl. Angl. (2nd ed.) p. 42.—Leers' (2nd ed.) p. 29. t. 6. f. 1.—Stillingfleet's Miscell. Tr. p. 383. t. 7.—Willd. Sp. Pl. v. i. pt. 1. p. 390.—Sm. Fl. Brit. v. i. p. 105.; Engl. Fl. v. i. p. 127.—With. (7th ed.) v. ii. p. 168.—Gray's Nat. Arr. v. ii. p. 104.—Lindl. Syn. p. 317.—Hook. Brit. Fl. p. 43.—Lightf. Fl. Scot. v. i. p. 97.—Sibth. Fl. Oxon. p. 42.—Abb. Fl. Bedf. p. 18.—Davies' Wesh Bot. p. 10.—Purt. Midl. Fl. v. i. p. 79.—Relh. Fl. Cant. (3rd ed.) p. 37.—Hook. Fl.

Fig. 1. A Floret.—Fig. 2. Calyx.—Fig. 3. Three Florets.—Fig. 4. Germen and Pistils.—Fig. 5. A Seed.—*All more or less magnified.*

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* From *Poa*, Gr. meaning an herb fit for the use of cattle. Dr. WITHERING.

† See fol. 56, note †.

Scot. p. 35.—Grev. Fl. Edin. p. 23.—Fl. Devon. pp. 17 & 124.—Johnston's Fl. of Berwick, v. i. p. 24.—Winch's Fl. of Northumb. and Durh. p. 6.—Baxter's Lib. of Agricul. and Horticul. Knowl. (2nd ed.) p. 306.—Loud. Mag. Nat. Hist. v. i. p. 382. f. 174. *t.*—Walker's Fl. of Oxf. p. 24.—Bab. Fl. Bath. p. 59.—Mack. Cat. of Pl. of Irel. p. 14.; Fl. Hibern. p. 305.—*Gramen pratense minus, seu vulgatissimum,* Ray's Syn. p. 408.—*Gramen minimum album,* Johnson's Gerarde, p. 3.

Localities.—In meadows and pastures; and in waste and cultivated ground, and by road-sides, every where, except in alpine situations.

Annual.—Flowers from April to November.

Root very fibrous. *Culms (stems)* numerous, somewhat procumbent, or, when growing among other plants, nearly upright; from 3 to 12 inches long, very smooth, slightly compressed, leafy, jointed, branched at the base, spreading in every direction, and taking root at many of their lower joints. *Leaves* of a fine light-green, spreading, strap-shaped, bluntish, flaccid, rough at the edges only, flat, except a few transverse wrinkles here and there, characteristic of the species, though not absolutely peculiar to it. *Sheaths* long, compressed, smooth, striated, paleish. *Stipula (ligula)* of the upper leaves oblong and acute; of the lower ones shorter, blunter, and jagged. *Panicle* somewhat triangular, flattish, upright, smooth. *Spikelets* egg-shaped, of 5 or 6 florets, smooth and polished. *Glumes (valves of the calyx)* unequal, egg-spear-shaped, rough at the back, nerved. Outer *palea* (valve of the *corolla*) egg-spear-shaped, pointed, white and membranous at the margin, keel and base hairy; inner notched, rough-edged. There is no web or hairiness at the base of the florets. *Anthers* short. *Styles* distant, very short. *Stigmas* branched.

There is no grass, says Mr. Curtis, better entitled to Ray's epithet of *vulgatissimum* than this, for it is common to every quarter of the globe, and occurs almost every where in meadows, gardens, by the sides of paths, and on walls; flowering all the Summer, and even in the Winter, if the weather be mild. When it grows in very dry situations it frequently does not exceed three inches, but in rich meadows it often grows more than a foot high. The panicle is usually green, but in open fields it frequently acquires a reddish tinge.

In walks, pavements, and pitching, it is one of our most troublesome weeds; the most effectual remedy to destroy it in such situations, Mr. Sinclair says, is by an application of common salt, just after the pitchings or walks have been cleaned; it should be strown over the surface sufficiently thick to make each particle of the salt touch another. This dressing will be found to prevent the vegetation of the seeds or roots of the grass. It will also be found to destroy worms or slugs.

The foliage of this grass is tender, sweet, and grateful to cattle, but as it is an annual, does not attain any great size, and is liable to be killed by severe frost; it is not likely to be of any material service to the farmer, though it has been much extolled by some writers. Its duration being annual renders it unfit for grass-plats, for which it has been much recommended; it differs, however, from most other annuals, in continually throwing out new shoots, so that it may generally be found with young shoots and ripe seed at the same time; and its seeds, which are abundantly produced, vegetate quickly, so that ere the parent plant decays, an abundant progeny are ready to occupy its place.

Ononis antiquorum. Prickly Rest-harrow. 4

Published by the Master Botanic Garden Oxford

ONO'NIS*.

Linnean Class and Order. DIADE'LPHIA†, DECA'NDRIA.

Natural Order. LEGUMINO'SÆ, Juss. Gen. Pl. p. 345.—Sm. Gram. of Bot. p. 174.—Lindl. Syn. p. 75.; Introd. to Nat. Syst. of Bot. p. 87.—Rich. by Macgilliv. p. 532.—Sm. Engl. Fl. v. iii. p. 259.—Loud. Hort. Brit. p. 509.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 91.—LEGUMINA CEÆ, Loudon's Arb. Brit. p. 561.—PAPILIONA'CEÆ‡, *Linn.*—ROSALES; sect. CICERINÆ; subsect. LOTIANÆ; type, LOTACEÆ; subtype, LOTIDÆ; Burn. Outl, of Bot. pp. 614, 638, 642, & 644.

GEN. CHAR. *Calyx* (fig. 1.) bell-shaped, in 5 rather deep, strap-shaped, pointed segments, the lower one the longest, and subtending the keel of the corolla. *Corolla* (fig. 2.) papilionaceous, of 5 petals; standard (vexillum) (fig. 4.) larger than the rest, striated, keeled and compressed at the back, depressed at the sides; wings (see figs. 3 & 5) inversely egg-shaped, about half the length of the standard; keel (see figs. 3 & 6.) of 2 converging petals, rather abrupt, pointed, a little longer than the wings. *Filaments* (see figs. 8 & 9.) 10, united into one cylinder, splitting along the upper edge. *Anthers* roundish. *Germen* (see fig. 8.) oblong. *Style* (see figs. 8 & 9) cylindrical, ascending. *Stigma* small, blunt. *Legume* (fig. 10.) oblong-rhomboid, turgid, sessile, scarcely longer than the calyx, of 1 cell, and 2 rigid elastic valves (see fig. 11). *Seeds* (see figs. 11 & 12.) few, kidney-shaped, roughish.

The bell-shaped *calyx*, with 5 strap-shaped, pointed segments; the large striated *standard;* and the turgid, sessile, few-seeded *legume;* will distinguish this from other genera, with monadelphous stamens, in the same class and order.

Three species British.

ONO'NIS ANTIQUO'RUM. Ancient Rest-Harrow. Spiny Rest-Harrow. Ground Furze. Cammock. Petty Whin.

SPEC. CHAR. Stems nearly upright, spinous, with 1 or 2 separate rows of hairs. Lower leaves trifoliate, the rest simple; leaflets and leaves oblong, wedge-shaped, and entire towards the base. Flowers usually solitary. Lobes of the calyx shorter than the legume.

ONONIS ANTIQUORUM, Linn. Sp. Pl. p. 1006.—Willd. Sp. Pl. v. iii. pt. II. p. 988.—Lindl. Syn. (2nd ed.) p. 322.—*Ononis spinosa*, Huds. Fl. Angl. (2nd ed.) p. 312.—Mart. Fl. Rust. t. 129.—With. (7th ed.) v. iii. p. 832.—Lindl. Syn. (1st edit.) p. 78.—Sibth. Fl. Oxon. p. 220.—Abb. Fl. Bedf. p. 155.—Purt. Midl. Fl. v. i. p. 331.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 161.—*Ononis arvensis*, var. β. Engl Bot. t. 682.—Sm. Fl. Brit. v. ii. p. 758; Engl. Fl. v. iii. p. 267.—Relh. Fl. Cant. (3rd ed.) p. 290.—Winch's Fl. of Northumb. and Durham, p. 47.—Walker's Fl. of Oxf. p. 205.—Hook. Brit. Fl. p. 320, in part; Fl. Scot. p. 212, in part.—Grev. Fl. Edin. p. 155, in part.—Fl. Devon. pp. 120 & 174, in part.—Mack. Fl. Hibern. p. 76, in part.—*O. arvensis*, var. γ. Gray's Nat. Arr. v. ii. p. 596.—*Anonis spinosa, flore purpureo*, Ray's Syn. p. 332.—*Anonis sive Resta bovis*, Johnson's Gerarde, p. 1322.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. A Flower with the banner removed.—Fig. 4. The Banner.—Fig. 5. One of the Wings.—Fig. 6. The Keel.—Fig. 7. The Stamens.—Figs. 8 & 9. The same, *a little magnified.*—Fig. 10. Legume.—Fig. 11. One Valve of the same.—Fig. 12. A Seed.

* From *onos*, Gr. an *ass;* because the plant is eaten by that animal. HOOKER.

† See folio 77, note †. ‡ See folio 117, note ‡.

Localities.—In barren pastures, on hedge-banks, and by road-sides, on a sandy or marly soil.

Perennial.—Flowers from June to August.

Root woody, tough and strong. *Stems* nearly upright, round, woody, branched, reddish, leafy, usually smooth, or covered only with a short down, with the exception of a single or double line of, somewhat recurved, hairs down the young branches; these hairs, Mr. Bentham observes, are by no means constant, and are never so long as in the *Ononis arvensis*, but much more apparent, on account of the extreme shortness or total absence of the general down of the plant. Principal, as well as short lateral branches, terminating in a straight sharp spine. *Leaves* alternate, stalked, lower ones trifoliate, the rest simple, all elliptical, inclining to wedge-shaped; entire in their lower part; serrated towards the extremity; dark green, with a few scattered, short, glandular hairs. *Stipulas* variable in size, on luxuriant plants rather large, egg-shaped, toothed, slightly glandular, often hairy at the base, combined, clasping the stem. *Flowers* axillary, mostly solitary, on short stalks, large and handsome, of a bright rose-colour; sometimes white. *Calyx* slightly hairy, its teeth awl-shaped, unequal, permanent, enlarging as the fruit ripens. *Standard* (see fig. 4.) twice the size of the wings and keel. *Legume* (fig. 10.) obliquely rhomboid, partly hairy, a little longer than the lobes of the calyx. *Seeds* rough, with minute points.

Many authors have described this as a variety of *Ononis arvensis*, but Mr. Bentham, in some remarks upon these species, in the Supplement to English Botany, t. 2659, observes, that "the erect kind, which is almost constantly spinous, is certainly the *O. antiquorum* of Linnæus, and ought therefore to retain that name. Of his *spinosa*," says Mr. Bentham, "there is no authentic specimen; but he appears to have first given that name to this plant (*O. arvensis*, E. B. t. 2659), and to have afterwards (*Syst. Nat.* ed. 12.) changed it to *O. arvensis*; and it is probably by mistake that Murray, in the 14th edition of the *Systema Vegetabilium*, inserted both *O. arvensis* and *O. spinosa*." (*Engl. Bot. Suppl.* at t. 2659.

Dr. Stokes observes, (*With. Bot. Arr.* 1st edit. v. ii. p. 444.) "Notwithstanding Linnæus makes the thorny Rest-harrow only a variety of the other (*O. arvensis*), and from the observations of Loesel, in the *Flora Prussica*, says it becomes thorny in the Autumn; yet with us they seem to be different species; they are seldom found together, and the *Corn Rest-harrow* without thorns, hath never been observed to become thorny."—Mr. Woodward informs us, that in the Autumn of 1779, he examined many hundreds of *O. arvensis* in the cornfields at Berkhamstead, Hertfordshire, without finding a single one with thorns, while in the neighbourhood of Bungay, Suffolk, he never found one without thorns in any season of the year, (With. 2nd ed. v. ii. p. 763.)—The Hon. Lady Arden has, for several years, observed that both the *O. arvensis*, (E. B. t. 2659), and *O. antiquorum*, (E. B. t. 682.), retain their character both in a wild and cultivated state, and her Ladyship expresses her opinion, that the plants differ too widely to be of the same species; Loudon's *Mag. Nat. Hist.* v. viii. p. 636.

O. antiquorum occasionally occurs with a white flower. I have seen this variety on a common near the canal, about half a mile N. from Upper Heyford, Oxon; and also on the road-side between Southam and Dunchurch, Warwickshire; July 14, 1831.—Mr. John Smith, of Beaumont Buildings, Oxford, observed it near the Isis, between Sandford and Nuneham.

The more upright growth; spiny stems and branches; shorter pubescence; and the legume as long, or rather longer than the calyx, will distinguish this species from *O. arvensis*.

In the fourth edit. of "The British Flora," just published, Sir W. J. Hooker has added the *Ononis reclinata* of Linnæus to the British Flora, on the authority of Dr. Graham, who found it, in considerable quantity, on a steep bank, close by the sea, 2 miles W. from Tarbert, Galloway, 1836.

Conyza squarrosa. Houghmain's Spikenard. δ

Published by W. Baxter Botanic Garden Oxford 1838

CONY'ZA *.

Linnean Class and Order. SYNGENE'SIA †, POLYGA'MIA, SUPE'RFLUA ‡.

Natural Order. COMPO'SITÆ §, tribe, CORYMBI'FERÆ, *Juss.* —Lindl. Syn. pp. 140 & 142.; Introd. to Nat. Syst. of Bot. pp. 197 & 199.—Mack. Fl. Hibern. p. 142.—COMPO'SITÆ; subord. CARDUA'CEÆ, Loud. Hort. Brit. pp. 520 & 521.—SYNANTHE'REÆ; tribe, CORYMBI'FERÆ, Rich. by Macgill. pp. 454 & 455.—CORYMBIFERÆ, sect. 2. Juss. Gen. Pl. pp. 177 & 180.—Sm. Gram. of Bot. pp. 121 & 123.; Engl. Fl. v. iii. p. 334.—SYRINGALES; sub-order, ASTEROSÆ; sect. ASTERINÆ; subsect. ASTERIANÆ; type, ASTERACEÆ; Burn. Outl. of Bot. pp. 900, 901, 920, 924, & 926.—COMPO'SITÆ, *Linn.*

GEN. CHAR. *Involucrum (common calyx)* roundish, imbricated; scales acute, rigid, with spreading prominent points, especially the outer ones. *Corolla* compound, discoid; *florets* tubular; those of the disk numerous, funnel-shaped, with 5 equal segments, perfect, all fertile (fig. 3.); those of the circumference without stamens, barren, slender, 3-toothed. *Filaments* (fig. 3.) 5, hair-like, very short. *Anthers* in a cylindrical tube. *Germen* (see fig. 3.) oblong. *Style* (see fig. 3.) thread-shaped, the length of the florets. *Stigmas* 2, spreading, more slender in the marginal florets. *Seed-vessel* none. *Seed* (fig. 4.) oblong. *Pappus* (see fig. 4.) simple, sessile, rough. *Receptacle* (see fig. 5.) naked.

The roundish, imbricated *involucrum;* the 3-toothed *florets* of the circumference; the rough *pappus;* and naked *receptacle;* will distinguish this from other genera, with a discoid corolla, in the same class and order.

One species British.

CONY'ZA SQUARRO'SA. Rough Ploughman's Spikenard. Great Fleabane. Montpelier Fleabane.

SPEC. CHAR. Leaves downy, egg-spear-shaped, serrated, the upper ones entire. Stem herbaceous, corymbose. Scales of the involucrum recurved, leafy.

Engl. Bot. t. 1195.—Curt. Brit. Entomol. v. vi. t. 277.—Lin. Sp. Pl. p. 1205.—Huds. Fl. Angl. (2nd ed.) p. 363.—Willd. Sp. Pl. v. iii. pt. iii. p. 1918.—Sm. Fl. Brit. v. ii. p. 873.; Engl. Fl. v. iii. p. 420.—With. (7th ed.) v. iii. p. 930.—Gray's Nat. Arr. v. ii. p. 462.—Lindl. Syn. p. 142.—Hook. Brit. Fl. p. 358.—Lightf. Fl. Scot. v. i. p. 475.—Sibth. Fl. Oxon. p. 251.—Abbot's Fl. Bedf. p. 180.—Davies' Welsh Bot. p. 78.—Purt. Midl. Fl. v. ii. p. 395.—Relh. Fl. Cant. (3rd ed.) p. 339.—Hook. Fl. Scot. p. 241.—Fl. Devon. pp. 137 & 159.—Winch's Fl. of Northumb. and Durham, p. 53.—Walker's Fl. of Oxf. p. 238.—Jacob's West Devon and Cornwall Flora.—Perry's Pl. Varvic. Selectæ, p. 70.—Bab. Fl. Bath. p. 26.—*Inula Conyza*, Hook. Brit. Fl. (4th ed.) p. 306.—*Baccharis monspeliensium*, Ray's Syn. p. 179.—Johnson's Gerarde, p. 792.

Fig. 1. A Floret, with its pappus.—Fig. 2. A Floret without its pappus.—Fig. 3. Stamens and Pistil.—Fig. 4. A Seed crowned with the pappus.—Fig. 5. Receptacle.—Figs. 2 & 3. *slightly magnified.*

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* From *konops*, Gr. a *gnat;* the plant having been supposed to possess the virtue of driving away insects. HOOKER.

† See folio 91, note †. ‡ See folio 36, note ‡. § See folio 27, *a*.

Localities.—In mountainous meadows and pastures, by road-sides, and in woods, on a chalky or limestone soil. Common in England; rare in Scotland; the only habitat recorded is "near Blair, in Athol," and that with a mark of doubt. Not noticed at all in Mr. Mackay's *Flora Hibernica*.

Biennial.—Flowers in September and October.

Root tapering, fleshy, simple at the crown, but much branched below. *Stems* upright, 2 or 3 feet high, somewhat angular, downy, often purplish, leafy; terminating in a corymbose, leafy, many-flowered panicle. *Leaves* elliptic spear-shaped, irregularly crenated, woolly on both sides, veiny, radical ones large, tapering at the base into bordered footstalks; uppermost ones often entire. *Flowers* numerous, dull yellow. *Peduncles* short, woolly. *Bracteas* spear-shaped, small, one on each peduncle. *Scales of the Involucrum* strap-spear-shaped, numerous, imbricated, the lower green, the upper yellowish, their points green and recurved. *Seeds* small, blackish, furrowed. *Pappus* sessile, as long as the involucrum. *Receptacle* tubercled.—Whole *herb* soft and downy, bitter and somewhat aromatic, with a portion of mucilage.

The root-leaves greatly resemble those of *Foxglove (Digitalis purpurea*, t. 113), but when rubbed, they are readily distinguished by their aromatic scent.

The name of Flea-bane, more properly Fly-bane, has been applied to this plant, from its fanied power of keeping off insects, especially flies, and of destroying fleas; but the genus *Erigeron* (see t. 166.) is the real Fly-bane, some of its viscid species, dipped in milk, being used in the south of Europe to catch the various little winged insects, so troublesome in warm climates.

WANDERINGS IN JUNE.

"How strange a scene has come to pass
Since Summer 'gan its reign!
Spring flowers are buried in the grass,
To sleep till Spring again;
Her dew-drops Evening still receives
To gild the Morning hours;
But dew-drops fall on open'd leaves,
And moisten stranger-flowers.

The artless daisies' smiling face
My wanderings find no more;
The king-cups that supplied their place,
Their golden race is o'er;
And clover-heads, with ruddy bloom,
That blossom where these fell,
Ere Autumn's fading mornings come
Shall meet their grave as well.

* * * * *

The open flower, the loaded bough,
The fields of spindling grain,
Were bloomiug then the same as now,
And so will bloom again:
When with the past my being dies,
Still Summer suns shall shine,
And other eyes shall see them rise
When death has darkened mine.

Reflection, with thy mortal shrouds
When thou dost interfere,
Though all is gay, what gloomy clouds
Thy musings shadow here!
To think of Summers yet to come
That I am not to see!
To think a weed is yet to bloom
From dust that I shall be!"

JOHN CLARE.

Tamus Communis. Black Bryony. 2

Pub'd by Thos Hurst Botanic Garden, Oxford 1838.

TA'MUS*.

Linnean Class and Order. DIŒ'CIA†, HEXA'NDRIA.

Natural Order. DIOSCOREÆ, *Dr. R. Brown.*—Lindl. Syn. (2nd edit.) p. 271.—Hook. Br. Fl. (4th ed.) p. 426.—SMILACEÆ, Lindl. Syn. p. 270.; Introd. to Nat. Syst. of Bot. p. 277.—ASPARAGI'NEÆ, Rich. by Macgilliv. p. 402.—ASPARAGI, sect. 3. Juss. Gen. Pl. pp. 40 & 43.—Sm. Gram. of Bot. pp. 71 & 72.—TA'MEÆ, Loud. Hort. Brit. p. 538.—MUSALES; sect. TACCINÆ; type, DIOSCORACEÆ; Burn. Outl. of Bot. v. i. pp. 437, 439, & 440.—SARMENTACEÆ, *Linn.*

GEN. CHAR. *Sterile Flowers* (fig. 1). *Calyx* none. *Corolla* (see fig. 1.) regular, in 6 deep, egg-spear-shaped segments; their upper part spreading horizontally. *Filaments* (fig. 3.) 6, awl-shaped, simple, equal, shorter than the corolla. *Anthers* roundish, upright. —*Fertile Flowers* (fig. 2). *Calyx* none. *Corolla* (see fig. 2.) superior, in 6 deep segments, contracted at the neck, deciduous. *Nectary* a small oblong pore, at the inside of the base of each segment. *Germen* (see figs. 2 & 4.) inferior, egg-oblong, large, smooth. *Style* (see fig. 4.) short, cylindrical, the length of the corolla. *Stigmas* 3, spreading, acute. *Berry* (fig. 5.) juicy, oval, of 3 cells. *Seeds* (see figs. 6 & 7.) 2 in each cell, with a blackish brittle *skin.*

The single *perianth*, in 6 deep segments, the staminiferous ones spreading; the pistiliferous ones superior and contracted at the neck; the single *style*, with 3 *stigmas;* and the 3-celled *berry;* will distinguish this from other genera in the same class and order.

One species British.

TA'MUS COMMU'NIS. Common Black Byrony. Wild Vine. Lady's Seal.

SPEC. CHAR. Leaves heart-shaped, undivided, acute.

Engl. Bot. t. 91.—Curt. Brit. Entomol. v. x. t. 443.—Linn. Sp. Pl. p. 1458.—Huds. Fl. Angl. (2nd ed.) p. 433.—Willd. Sp. Pl. v. iv. pt. II. p. 772.—Sm. Fl. Brit. v. iii. p. 1078.; Engl. Fl. v. iv. p. 241.—With. (7th ed.) v. ii. p. 437.—Gray's Nat. Arr. v. ii. p. 190.—Lindl. Syn. p. 271.—Hook. Brit. Fl. p. 436.—Sibth. Fl. Oxon. p. 117.—Abbot's Fl. Bedf. p. 214.—Davies' Welsh Bot. p. 94.—Purt. Midl. Fl. v. ii. p. 477.—Relh. Fl. Cant. (3rd ed.) p. 408.—Fl. Devon. pp. 160 & 129.—Winch's Fl. of Northumb. and Durham, p. 64.—Walker's Fl. of Oxf. p. 296.—Bab. Fl. Bath. p. 50.—*Tamnus racemosa, flore minore luteo-pallescente*, Ray's Syn. p. 262.—*Bryonia nigra*, Johnson's Gerarde, p. 871.

LOCALITIES.—In hedges, thickets, woods, &c. Common in most parts of England; not in the Floras of Scotland or of Ireland.

Perennial.—Flowers in June.

Fig. 1. A Sterile Flower.—Fig. 2. A Fertile Flower.—Fig. 3. Stamens of a Sterile Flower.—Fig. 4. The Germen, Style, and Stigmas of a Fertile Flower.—Fig. 5. A Berry.—Fig. 6. A transverse section of a Berry.—Fig. 7. A Seed.—Figs. 1, 2, 3, & 4, *slightly magnified.*

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* Supposed to be the *Uva Timinia* of PLINY, or *Black Byrony.* Sir W. J. HOOKER. † See folio 143, note †.

Root large and fleshy, blackish on the outside, white within. *Stems* smooth, twining about every thing in their way, and thus ascending without the aid of tendrils, to the height of 10 or 12 feet in hedges or among bushes, which they adorn with their graceful festoons of tawny, shining leaves, and bright red berries in the Autumn. *Leaves* alternate, on long petioles, smooth, bright green, shining, entire, the nerves raised beneath, varying from kidney to heart-shaped, heart-spear-shaped, triangular spear-shaped, and even halbert-shaped. *Stipulas* in pairs, awl-shaped. *Flowers* greenish, in imperfectly whorled, axillary, stalked racemes, with minute bracteas under their partial stalks; the sterile and fertile flowers on separate plants. The sterile flowers soon fall off; but the fertile ones are succeeded by oval smooth berries.

The whole plant is smooth, and though considered poisonous, the young shoots are eaten in the spring, dressed like asparagus. The Moors are said to eat them boiled, with oil and salt. "The roots are large, and replete with fecula, which is, however, mixed with a bitter acrid matter, that renders them unpleasant to the taste, and probably unwholesome. Heat and repeated washing will, however, destroy all the bitterness and acridity, and the fecula which remains forms a nutritious food. Attached to the roots are blackish tumours, which should be removed from those intended to be eaten; for they are so exceedingly acrid, that, when beaten into a pultaceous mass with the rest of the root, they have been used as stimulating plasters." *Burnet's Outlines of Botany*, p. 440.

Mr. WINCH observes, in his "Essay on the Geographical Distribution of Plants," that *Tamus Communis* terminates its long range on the north bank of the river Wear, above Sunderland, from as far south as Algiers.

The *Natural Order* DIOSCOREÆ, of which *Tamus* is the only British example, consists of monocotyledonous, twining *plants* or *shrubs*, the veins of whose *leaves* are reticulated, or palmatinerved. Their *flowers* are diœcious, small, and greenish. Their *perianthium* is superior and 6-parted; and their *stamens*, 6 in number, are inserted into the base of the perianthium. The *ovary* is 3-celled, with 1 or 2 seeds in each cell; the *style* is deeply 3-parted; and the *stigmas* undivided. The *fruit* is either succulent or dry; and the *embryo*, which is near the *hilum*, is small, and included in a large cavity of cartilaginous *albumen*.

The most important exotic Genera in this order are the *Dioscórea*, or *Yam;* and *Testudinaria*, or *Hottentot's Bread*. The roots of these plants yield valuable articles of food in tropical countries.

Avena pubescens. Downy Oat-grass. 4

C. Mathews, Del. & Sc.

Pub.d by W. Baxter Botanic Garden Oxford 1838.

AVE'NA *.

Linnean Class and Order. TRIA'NDRIA †, DIGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 86.; Engl. Fl. v. i. p. 71.—Lindl. Syn. p. 293.; Introd. to Nat. Syst. of Bot. p. 292.—Rich. by Macgilliv. p. 393.—Loud. Hort. Brit. p. 542.—Mack. Fl. Hibern. p. 294.—GRAMINA, *Linn.*—GRAMINALES; sect. FESTUCINÆ; type, AVENACEÆ; Burn. Outl. of Bot. v. i. pp. 359 & 369.

GEN. CHAR. *Panicle* loose. *Spikelets* (fig. 2.) of 2 or more alternate florets. *Calyx* (see figs. 1 & 2.) of 2 unequal, egg-spear-shaped, concave, lax, membranous-pointed, awnless *glumes*. *Corolla* (see figs. 2 & 3.) of 2 unequal, spear-shaped *paleæ (valves)*, the outer firmer than the calyx, and about the same size, egg-shaped, involute, so as to be nearly cylindrical, pointed at the end, concave; deeply cloven at the summit, bearing from the middle of the back a stout *awn;* spirally twisting in its lower part; simple and tapering above; spreading when dry; inner palea egg-shaped, smaller, awnless. *Nectary* (see fig. 4.) of 2 spear-shaped scales. *Filaments* (see fig. 3.) 3, shorter than the corolla. *Anthers* rather short. *Germen* (see fig. 4.) blunt. *Styles* (see fig. 4.) somewhat lateral, short, distinct. *Stigmas* (see fig. 4.) densely feathery. *Seed* (fig. 5.) elliptic-oblong, with a narrow channel along its upper side, sometimes downy, closely enveloped in the hardened outer palea of the corolla, retaining its awn. The upper florets are often imperfect.

The loose *panicle;* the *calyx* of 2 glumes, containing 2 or more *florets;* and the *corolla* of 2 spear-shaped paleæ, firmly inclosing the *seed*, the outer one bearing a twisted dorsal *awn;* will distinguish this from other genera in the same class and order. See *Hook. Brit. Fl.* (4th ed.) t. 2. f. 30.

Seven species British.

AVE'NA PUBESCENS. Downy Oat-grass‡.

SPEC. CHAR. Panicle upright, nearly simple. Spikelets upright, of about 3 florets, a little longer than the calyx; outer palea of the corolla jagged. Leaves flat, downy, their edges smooth.

Engl. Bot. t. 1640.—Knapp's Gram. Brit. t. 90.—Host. Gram. Austr. v. ii. p. 37. t. 50.—Curt. Brit. Entom. v. xiii. t. 625.—Leers' Fl. Herborn. (2nd edit.) p. 42. t. 9. f. 2.—Linn. Sp. Pl. p. 1665.—Huds. Fl. Angl. (2nd edit.) p. 52.—Willd. Sp. Pl. v. i. pt. 1. p. 448.—Sm. Fl. Brit. v. i. p. 140.; Engl. Fl. v. i. p. 164.—With. (7th edit.) v. ii. p. 194.—Gray's Nat. Arr. v. ii. p. 131.—Hook.

Fig. 1. Calyx.—Fig. 2. A Spikelet.—Fig. 3. A perfect, and an imperfect Floret.—Fig. 4. Nectary, Germen, and Pistils.—Fig. 5. A Seed.

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* Name of doubtful origin; the ancients applied it to the *Brome-grass*. HOOKER.

† See folio 56, note †.

‡ *Oat*, THEIS tells us, comes from the Celtic word *atan*, the *oat;* and that again from *etan*, to *eat*. HOOKER.

Brit. Fl. p. 51.—Sincl. Hort. Gram. Wob. p. 285, with a plate.—Lightf. Fl. Scot. v. i. p. 105—Sibth. Fl. Oxon. p. 49.—Abbot's Fl. Bedf. p. 24.—Purt. Midl. Fl. v. i. p. 85.—Davies' Welsh Bot. p. 12—Relh. Fl. Cant. (3rd edit.) p. 46.—Hook. Fl. Scot. p. 43.—Grev. Fl. Edin. p. 30.—Johnston's Fl. of Berw. v. i. p. 28.—Winch's Fl. of Northumb. and Durham. p. 8.—Walker's Fl. of Oxf. p. 30.—Bab. Fl. Bath. p. 57.—Mack. Catal. of Pl. of Irel. p. 15.; Fl. Hibern. p. 312.—*Avena sesquitertia*, Linn Mant. v. i. p. 34. excl. the reference to Scheuchzer.—Willd. Sp. Pl. v. i. pt. 1. p. 448.—*Trisetum pubescens*, Pers.—Lindl. Syn. p. 308.—*Gramen avenaceum* 7. *seu glabrum (potius hirsutum) panicula purpuro-argentea splendente*, Ray's Syn. p. 406 t. 21. f. 2.—*Gramen avenaceum paniculâ purpuro-argenteâ splendente*, Scheuchz. Agr. 226. t. 4. f. 20.

Localities.—In pastures on a chalky or limestone soil.—Not uncommon in most counties in ENGLAND; more rare in SCOTLAND and IRELAND.

Perennial.—Flowers in June.

Root strong, somewhat creeping, fibres slightly downy. *Culms (stems)* from 18 inches to 2 feet high, simple, straight, except at the lowest joint, smooth, leafy. *Leaves* spreading, flat, bluntish, clothed all over with soft spreading hairs. *Stipulas (ligulæ)* acute, triangular, the upper one elongated. *Sheaths (vaginæ)* cylindrical, striated, the upper one nearly smooth, the lower ones clothed, like the leaves, with soft spreading hairs. *Panicle* upright; all its branches in general simple, 3 or 4 together, rough, upright. *Spikelets* upright, spreading when in flower. *Florets* purplish and silvery white, mostly 2, with an imperfect one, all on a long, bent, bearded *partial stalk*. *Glumes* of the calyx very unequal. *Corolla* with a purple stain, the *paleæ* all shining and pellucid at the summit; the outer one oblong, and jagged at the apex; with a long, rough, brown, twisted *awn*, twice as long as the calyx, inserted at the back, about the middle. *Styles* very short.

The leaves are very bitter, which makes it disagreeable to cattle. Mr. Sinclair states, that the downy hairs on the leaves almost disappear when the plant is cultivated on richer soils, and is inclined to consider it of some value among the secondary grasses.

It is readily distinguished from other species of *Avena* by the beautiful purplish and silvery white florets.

Sir W. J. Hooker remarks, (*Brit. Flora*, p. 51.) that nothing, as it appears to him, can be more unnatural than to place this plant in a different genus from *Avéna Alpina* and *planiculmis*. In habit it partakes of the character of the larger-flowered species of the Genus, *A. fatua* and *strigosa*, and of the smaller-flowered one, *A. flavescens*. Dr. Lindley confines the Genus *Trisetum* to *T. pubescens* and *T. flavescens*. Mr. Dumortier adds to it *Avena pratensis*, and *Aira præcox*, of the *British Flora*.

J. Russell Del.

Tilia europæa. Common Lime tree b

Pub. by G. & W. Nicol, Bookseller to His Majesty & Garden, London 1838

TI'LIA*.

Linnean Class and Order. POLYA'NDRIA†, MONOGY'NIA.

Natural Order. TILIA'CEÆ, Juss. Gen. Pl. p. 289.—Sm. Gr. of Bot. p. 155.—Lindl. Syn. p. 54.; Introd. to Nat. Syst. of Bot. p. 40.—Rich. by Macgilliv. p. 481.—Loud. Hort. Brit. p. 503.; Arboret. Brit. p. 364.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 540.—Mack. Fl. Hibern. p. 52.—Hook. Br. Fl. (4th ed.) p. 401.—ROSALES; subord. RHŒADOSÆ; sect. MALVINÆ; type, TILIACEÆ; Burn. Outl. of Bot. pp. 614, 784, 814. & 823.—COLUMNIFERÆ, *Linn.*

GEN. CHAR. *Calyx* (see figs. 1 & 2.) inferior, in 5 deep, valvular, concave, coloured, rather coriaceous, equal segments, about the size of the corolla, deciduous. *Corolla* (see fig. 1.) of 5, inversely egg-shaped, blunt petals, alternate with the segments of the calyx, with or without a scale or nectary on the inside at the base. *Filaments* (see fig. 3.) numerous, 30 or more, thread-shaped, the length of the petals. *Anthers* of 2 roundish lobes, bursting outwards. *Germen* (figs. 4 & 5.) superior, roundish. *Style* (see figs. 4 & 5.) columnar, upright, scarcely so long as the stamens, deciduous. *Stigma* with 5 blunt angles. *Capsule* (fig. 6.) roundish, more or less angular, bursting tardily at the base, of 5 cells, seldom all perfect; partitions opposite to the angles. *Seeds* 1 or 2 in each cell of the germen, but many prove abortive, and the ripe capsule has often but one cell, with a solitary seed, which is globular and smooth. *Embryo* (see figs. 10 & 11.) large, heart-shaped and lobed.

The 5-parted, deciduous *calyx;* the *corolla* of 5 petals, with or without a scale on the inside; and the coriaceous *capsule* of from 1 to 5 cells, with 1 or 2 seeds in each cell; will distinguish this from other genera in the same class and order.

Three species British.

TI'LIA EUROPÆ'A. European Lime-tree. Common Lime-tree. Linden-tree. Bast.

SPEC. CHAR. Leaves twice the length of the footstalks, quite smooth, except a woolly tuft at the origin of each vein beneath. Cymes many-flowered. Fruit coriaceous, downy.

Engl. Bot. t. 610.—Hook. Fl. Lond. t. 190.—Loud. Arbor. et Frut. Brit. p. 364. t. 15. and t. 15, *α.*—Linn. Spec. Pl. p. 733, *α.*—Huds. Fl. Angl. (2nd ed.) p. 231, *α.*—Willd. Sp. Pl. v. ii. pt. 11. p. 1161.—Sm. Fl. Brit. v. ii. p. 571, *α.*; Engl. Fl. v. iii. p. 17.—With. (7th ed.) v. iii. p. 654. var. 1.—Hook. Brit. Fl. p. 259.—Hunt. Evel. Silva, p. 201, in part.—Light. Fl. Scot. p. 280.—Sibth. Fl. Ox. p. 166.—Abb. Fl. Bedf. p. 116.—Davies' Welsh Bot. p. 53.—Purt. Midl. Fl. v. i. p. 253.—Relh. Fl. Cant. (3rd ed.) p. 215.—Hook. Fl. Scot. p. 170.—Grev. Fl. Edin. p. 121.—Fl. Devon. pp. 91 & 179.—Phillips' Sylva Florif. v. ii. p. 53.—Sylvan Sketches, p. 216.—Winch's Fl. of Northumb. and Durham, p. 36.—Walker's Fl. of Oxf. p. 150.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 552.—Bab. Fl. Bath. p. 9.—Dick. Fl. Abredonensis, p. 41.—Mack. Catal. of Pl. of Irel. p. 52.; Fl. Hibern. p.

Fig. 1. Calyx and Corolla.—Fig. 2. Calyx.—Fig. 3. Stamens and Pistil.—Figs. 4 & 5. Germen, Style, and Stigma.—Fig. 6. Capsule.—Fig. 7. Transverse section of the same.—Fig. 8. Seed.—Fig 9. Transverse section of ditto.—Fig. 10. Vertical section, showing the large leaf-like Cotyledons.—Fig. 11. Embryo, *magnified.*

* Supposed to be derived from *ptilon*, Gr. a *feather;* alluding to the appearance of the flowers and floral-leaves.

† See folio 43, note †.

53.—*Tilia intermedia*, Dec. Prod. v. i. p. 513.—Lindl. Syn. p. 54.—Macreight's Man. of Brit. Bot. p. 37.—*T. platyphylla*, Gray's Nat. Arr. v. ii. p. 637.—*T. fœmina*, John. Gerarde, p. 1438.—*T. vulgaris platyphyllos*, Ray's Syn. p. 473, but not of J. Bauhin.

Localities.—In woods and hedges.

Tree.—Flowers in July.

A tall, upright *tree*, with smooth, round, brown, leafy, spreading branches, green while young. *Leaves* 3 or 4 inches broad, and rather more in length, undivided; unequal and somewhat heart-shaped, as well as entire, at the base; the margin acutely and rather unequally serrated; the point elongated, acute; bright green on the upper surface, paler on the under; quite smooth, except a tuft of brown woolly hairs at the origin of the veins beneath. *Stipulas* oval, smooth, in pairs at the base of each footstalk, soon falling off. *Footstalks (petioles)* cylindrical, slender, smooth, not half so long as the leaves. *Flowers* small, very fragrant, in drooping pedunculate cymes or imperfect umbels, which arise from the centre of a long, spear-shaped, leaf-like *bractea*, of a pale yellowish-green colour, which falls off with the fruit. *Calyx* greenish. *Petals* inversely egg-shaped, pale lemon-coloured, destitute, like all our European species, of the scales attached to the petals of American ones. *Stamens* spreading, shorter than the corolla. *Anthers* yellow. *Germen* densely hairy. *Stigma* 5-lobed. *Capsule* downy, leathery, not woody, uncertain in the number of perfect cells and *seeds*.

This tree is cultivated all over England, as well as in some parts of Scotland. The wood is soft, light, and smooth; close grained, and not subject to the worm; it is used for some domestic purposes, and by the turner, and musical instrument maker; but its chief use is for carving.

It served Gibbons for his inimitable carvings of flowers, dead game, &c, so often seen in old English houses, the Duke of Devonshire's at Chatsworth, choir of St. Paul's, &c.; and it is supposed by some, that the blocks employed by Holbein for wood-engravings were of this tree. The wood makes excellent charcoal for gunpowder; and the inner bark of this, and perhaps some other species, makes the Russian garden-mats called *Bast*. Bees collect much honey from the flowers. The sap, inspissated, affords a quantity of sugar. *Erineum tiliaceum*. Pers. is not uncommon on the under side of the leaves in the Summer and Autumn.—An ancient *Lime* of great magnitude, which grew where the ancestors of Linnæus had long resided, is said to have given them their family name, *Linn* being Swedish for a *Lime-tree*. (Smith, Withering, &c.).

For much valuable and interesting information relating to the history, properties, uses, &c. of this tree, I beg to refer to Mr. Loudon's *Arboretum et Fruticetum Britannicum*, which is now finished, and is, without exception, the very best, and most complete work on the subject of Arboriculture, that has ever before been published, either in this or any other country.

The *Natural Order*, Tilia'ceæ, is composed of dicotyledonous *trees* or *shrubs*, with simple, alternate, stipulated, often toothed, *leaves*, and axillary *flowers*. The *calyx* consists of 4 or 5 sepals, with a valvate æstivation; and the *corolla* of 4 or 5 entire petals, each with a little pit at its base. The *stamens* are generally indefinite; their *anthers* 2-celled, opening longitudinally. The *disk* is formed of *glands* equal in number to the petals, at the foot of which they are placed, adhering to the stalk of the ovary. The *ovary* is from 1- to 10-celled; with a single style. The *fruit* is a *capsule* of several cells, with one or many *seeds* in each. The *albumen* is fleshy; the *embryo* straight; and the *cotyledons* flat, and foliaceous.

Tilia is the only British genus belonging to this order.

Galium verum. Yellow Bed straw. 2

Published by W Baxter Pet... London, Oxford, ...

GA'LIUM*.

Linnean Class and Order. TETRA'NDRIA†, MONOGY'NIA.

Natural Order. STELLA'TÆ‡, *Linn.*—Lindl. Syn. p. 128.; Introd. to Nat. Syst. of Bot. p. 202.—Mack. Fl. Hibern. p. 129.—RUBIA'CEÆ, Juss. Gen. Pl. p. 196.—Sm. Gram. of Bot. p. 126.—Rich. by Macgilliv. p. 459.—Loud. Hort. Brit. p. 519.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 453.—Hook. Brit. Fl. (4th edit.) p. 409.—Macr. Man. Br. Bot. p. 111.—SYRINGALES; suborder, ASTEROSÆ; sect. RUBIACINÆ; type, RUBIA'CEÆ; Burn. Outl. of Bot. v. ii. pp. 900, 901, 902, & 914.

GEN. CHAR. *Calyx* superior, very minute, with 4 teeth. *Corolla* (figs. 1 & 2.) of 1 petal, wheel-shaped, in 4 deep, acute, often long-pointed, segments, without a tube. *Filaments* (fig. 2.) 4, from the base of the corolla, awl-shaped, shorter than the limb. *Anthers* of 2 round cells. *Germen* (fig. 3.) inferior, of 2 combined globes. *Style* (see fig. 3.) thread-shaped, the length of the stamens, cloven at least half way down. *Stigmas* capitate. *Seeds* (figs. 4 & 5.) naked, combined, globular, not crowned by the calyx.

Distinguished from other genera, in the same class and order, by the wheel-shaped, 4-cleft *corolla;* and the dry, 2-lobed, indehiscent *fruit.*

Sixteen species British.

GA'LIUM VE'RUM. True Cheese-rennet. Yellow Bed-straw§. Ladies' Bed-straw. Maid's Hair. Petty Muguet. Yellow Goose-grass.

SPEC. CHAR. Leaves about 8 in a whorl, strap-shaped, grooved above. Flowers yellow, in dense panicles. Fruit smooth.

Engl. Bot. t. 660.—Curt. Fl. Lond. t. .—Mart. Fl. Rust. t. 54.—Curt. Brit. Entomol. v. vii. t. 317.—Linn. Sp. Pl. p. 155.—Huds. Fl. Angl. (2nd edit.) p. 69.—Willd. Sp. Pl. v. i. pt. 1. p. 590.—Sm. Fl. Brit. v. i. p. 178.; Engl. Fl. v. i. p. 208.—With. (7th edit.) v. ii. p. 225.—Gray's Nat. Arr. v. ii. p. 481.—Lindl. Syn. p. 130.—Hook. Brit. Fl. p. 61.—Macreight's Manual of British Botany, pp. 112 & 113.—Lightf. Fl. Scot. v. i. p. 115.—Sibth. Fl. Oxon. p. 59.—Abb. Fl. Bedf. p. 34.—Davies' Welsh Bot. p. 15.—Purt. Midl. Fl. v. i. p. 96.—Relh. Fl. Cant. (3rd ed.) p. 60.—Hook. Fl. Scot. p. 50.—Grev. Fl. Edin. p. 35.—Fl. Devon. pp. 26 & 163.—Johnston's Fl. of Berwick, v. i. p. 36.—Winch's Fl. of Northumb. and Durham, p. 11.—Walker's Fl. of Oxf. p. 39.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 654.—Bab. Fl. Bath. p. 23.—Dickie's Fl. Abred. p. 26.—Mack. Catal. of Pl. of Irel. p. 18.; Fl. Hibern. p. 130.—*Gallium luteum,* Johnson's Gerarde, p. 1126.—Ray's Syn. p. 224.

LOCALITIES.—In hilly, bushy places, way-sides, and margins of fields and woods, in dry ground; frequent.

Figs. 1 & 2. Corolla, Stamens, and Pistil.—Fig. 3. Germen, Style, and Stigmas.—Figs. 4 & 5. Fruit.

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* From *gala*, Gr. *milk;* the plant having been used to curdle milk. HOOKER.

† See folio 46, note †. ‡ See folio 135, *a.*

§ The common name Bed-straw given to all the species is from the verb strew, anciently written straw. Before the invention of feather-beds, a variety of herbs were used to strew beds with; among these doubtless this was one. MARTYN.

Perennial —Flowers in July and August.

Root creeping, slender, somewhat woody, of a yellowish colour. *Stem* from 1 to 2 feet high, somewhat woody, round, or slightly 4-cornered, with numerous, opposite, square, leafy, often downy, branches. *Leaves* verticillate, 8 or 10 in a whorl, often decreasing in number towards the extremities of the branches, sessile, strap-shaped, bluntish, with a slight point; narrowed at the base, rolled back at the edges, variously deflexed, dark glossy green above, paler beneath. *Flowers* of a golden yellow, very numerous, in dense tufted *panicles*, smelling of honey, very strongly in the evening, or before rain. *Segments* of the corolla greatly expanded. *Stamens* short. *Anthers* yellow, finally brownish. *Style* cloven more than half way down. *Fruit* small, round, blackish.

A kind of vinegar is said to have been distilled from the flowery tops of this species, and the herb was formerly used to coagulate milk, for Cheshire cheese; from later experiments it has not succeeded in coagulating milk. It has probably been put into milk destined to make cheese, not so much for the purpose of curdling it, as of giving it a flavour; or as MATTHIOLUS expresses it, to make it eat the sweeter. The French formerly prescribed the flowers in hysteric and epileptic cases. Boiled in alum-water the flowering stems dye a good yellow-colour. The roots dye a fine red, not inferior to madder, and are said to be used for that purpose in the Island of Jura.—Sheep and goats eat the plant; horses and swine refuse it; cows are not fond of it. It is subject to a disease, in which the stem and branches are beset with fleshy balls, about the size of a pea, hollow within, and covered with a purplish skin.

A small, brown-coloured fungus (*Puccínia galiórum*, of LINK, Willd. Sp. Pl. v. vi. pt. II. p. 76.; and Hook. Brit. Fl. v. ii. pt. II. p. 366.) is sometimes found on its leaves.

The caterpillars of *Deilephila lineata*, *D. gallii*, *D. elpenor*, and *Macroglossa stellatarum*, are said to feed on this plant, (see *Curt. Brit. Entomol.* vol. i. folio 3).

" Summer! delicious Summer! thou dost fling
Thy unbought treasures o'er the glorious earth!
Music is in thy step, and in thine eye
A flood of sunshine! on thy brow is wreathed
Garlands that wither not, and in thy breath
Are all the perfumes of Arabia!
Thou wilt not frown, tho' I have pluck'd unseen
One little blossom from thy golden hair."

H. G. BELL.

Herminium monorchis. Green Musk Orchis. 4

C. Mathews, Del. & St. Pub.d by W. Baxter Botanic Garden, Oxford 1838

HERMI'NIUM*.

Linnean Class and Order. GYNA'NDRIA†, MONA'NDRIA.

Natural Order. ORCHI'DEÆ, *Linn.*—Juss. Gen. Pl. p, 64.—Sm. Gram. of Bot. p. 81; Engl. Fl. v. iv. p. 3.—Lindl. Syn. p. 256; Introd. to Nat. Syst. of Bot. p. 262.—Rich. by Macgilliv. p. 412.—Loud. Hort. Brit. p. 536.—Mack. Fl. Hibern. p. 274.—Macr. Man. Br. Bot. p. 224.—Hook. Br. Fl. (4th edit.) p. 425.—PALMARES; order, MUSALES; sect. ORCHIDINÆ; type, ORCHIDACEÆ; Burn. Outl. of Bot. v. i. pp. 391, 437, 458, & 461.

GEN. CHAR. *Perianthium*‡ *(calyx and corolla)* (see fig. 2.) superior. *Sepals* 3, (fig. 1. *c. c. c.*) egg-shaped, concave, equal, spreading, permanent. *Petals* 2, (fig. 1. *d. d.*) fleshy, egg-shaped, flat, spreading, more or less deeply 3-lobed, acute, nearly as long as the sepals. *Lip (Nectary)* (fig. 1, *c.* and fig. 3.) without a *spur*, deeply 3-lobed, spreading like the petals, but rather longer, slightly tumid at the base underneath. *Anthers* roundish, of 2 cells close together, over the *stigma* (see fig. 3.), depositing the globular, stalked granulated masses of pollen (fig. 4.), by their stalks, upon two separate naked glands. *Germen* (see fig. 1, *b.*) elliptic-oblong, twisted, furrowed. *Style* short and thick. *Stigma* a moist cavity in front. *Capsule* (fig. 5.) egg-oblong, triangular, nearly straight. *Seeds* very numerous.

The herbaceous spreading *perianthium;* the short, lobed *lip*, without a spur; the terminal *anther*, with parallel lobes; and the naked, distinct *glands* of the stalks of the *pollen masses;* will distinguish this from other genera in the same class and order.

One species British.

HERMI'NIUM MONO'RCHIS. One-tubercled Musk-Orchis. Green Musk-Orchis. Yellow Sweet-Orchis.

SPEC. CHAR. Root-leaves 2, spear-shaped.

Hook. Fl. Lond. t. 138.—Brown in Ait. Hort. Kew. (2nd ed.) vol. v. p. 191.—Sm. Engl. Fl. v. iv. p. 27.—Gray's Nat. Arr. v. ii. p. 207.—Lindl. Syn. p. 263.—Hook. Brit. Fl. p. 374.—Mac. Man. Brit. Bot. p. 227.—Rev. G. E. Smith's Pl. of South Kent, p. 51.—Walker's Fl. of Oxf. p. 256.—Bab. Fl. Bath. p. 49.—*Ophrys Monorchis*, Linn. Sp. Pl. p. 1342.—Eng. Bot. t. 71.—Curt. Br. Ent. v. v. t. 237.—Huds. Fl. Angl. (2nd ed.) p. 390.—Willd. Sp. Pl. v. iv. pt. i. p. 61.—Sm. Fl. Brit. v. iii. p. 936.—With. (7th ed.) v. ii. p. 40.—Relh. Fl. Cant. (3rd ed.) p. 364.—Purt. Midl. Fl. v. iii. p. 66.—*Orchis odorata moschata, sive Monorchis*, Ray's Syn. p. 378.—Rudb. Camp. Elys. v. ii. p. 207. f. 1.—Blackst. Spec. Bot. p. 65.—*Monorchis montana minima, flore obsoleto vix conspicuo*, Mich. Gen. p. 30. t. 26. f. E. F.—Johnson's Gerarde, p. 218.

LOCALITIES.—On banks, hillocks, and barren pastures, in a chalky soil, but not common.—*Oxfordsh.* Found in Stokenchurch Woods, by the late JOHN OGLANDER, Esq. of Merton College, Oxford; July 24, 1820.—In *Berkshire:* Engl. Fl.—*Bucks;* In a chalk-pit by the road-side at Gerard's Cross, plentifully: BLACKSTONE.—Near Great Kimble; July, 1821: Miss MAINSTONE.—

Fig. 1. A separate Flower; *a.* the bractea; *b.* the Germen; *c. c. c.* the Sepals; *d. d.* the Petals; *e.* the Lip.—Fig. 2. A front view of the same.—Fig. 3. Lip, Column, and Anthers.—Fig. 4. Pollen Masses.—Fig. 5. Capsule.—Figs. 2, 3, & 4. *magnified.*

* From *ermin*, or *erminos*, Gr. *fulcrum tori;* in allusion either to the thick, though short, column of the flower, or to the stem or scape of the flowers. HOOKER.

† See folio 8, note †. ‡ See folio 33, note ‡.

Cambridgsh. Chalk-pit Close; Pits between Hinton, and the road to Gogmagog Hills; Westhoe; in an old gravel-pit near Mr. Keene's house: Rev. R. Relhan.—*Essex;* Near Newport: Miss Howard.—*Gloucestersh.* On Rodborough Hill, near Stroud, July 12, 1832; and on Painswick Hill, near Stroud, just below the Roman Camp; July 16, 1838: Rev. G. W. Sandys. In Prinknash Rough Park, near Painswick; and Linover Scar, near Cheltenham; 1837: E. F. Witts, Esq.—*Hants;* On Bordean Hill: Dr. Pulteney. In Marsedell chalk-pit, near Basingstoke; July, 1838: Rev. E. Hill, Ch. Ch. Oxford.—*Kent;* On the chalky banks of Ospringe Parsonage Meadows, near Faversham: E. Jacob, Esq. 1777. Upon chalk-downs at Stowting; and on turf, between Lyminge and Elham: Rev. G. E. Smith. Near Cuxton: Rev. W. W. Peete. Plentiful in Kent: Mr. W. Pamplin, jun.—*Middlesex;* Near Enfield: Martyn.—*Norfolk;* Chalk-pit at Marham: Mr. Woodward. Near Snettisham: Mr. Crowe.—*Somersetsh.* Pastures near Cottage Crescent: Dr. Davis.—*Suffolk;* In a chalk-pit near Sicklesmere, and at Little Saxham: Sir T. G. Cullum. Bury: N. J. Winch, Esq.—*Surrey;* In the great chalk-pit on Epsom Downs, near Ashted Park: Mr. T. F. Forster, jun. Near Mickleham; and in Norbury Park, near Dorking: Mr. W. Pamplin, jun. Box Hill: Mr. J. Macnab, in N. B. G.—*Sussex;* On the Side Hill of Vinegar Bottom near Lewes: Mr. Woolgar. Parham; Hanger; foot of Chanctonbury; near the turnpike on the road from Lewes to Ditcheling: *Bot. of Sussex.*

Perennial.—Flowers in June and July.

Root of several thick, somewhat woolly, fibres, and one globular hairy *knob*. *Stem* from 4 to 6 inches high, upright, nearly cylindrical, striated, smooth, sometimes slightly twisted. *Leaves* 2, rarely 3, alternate, elliptic-spear-shaped, acute, obscurely ribbed, concave, sheathing the stem at, or near, its base; when a third leaf is present, (as was the case in the plant figured,) it is usually elevated towards the middle of the stem; and there is mostly a small, membranous, spear-shaped, taper-pointed *bractea* higher up, similar to those under each flower. *Spike* from an inch and a half to two inches long. *Flowers* small, numerous, rather crowded, greenish-yellow, smelling like musk and honey, especially in an evening. (The Rev. Mr. Sandys remarks, that their delicious fragrance is chiefly to be perceived in the heat of the sun.) *Calyx* of 3 equal, egg-shaped, blunt, concave, green *sepals*, shorter than the *corolla*. *Petals* of a totally different substance from the sepals, thick, yellowish, spreading between the sepals; egg-shaped at the base, with a more or less prominent angle, or lobe, at each side, and suddenly tapering into an elongated point. *Lip* of the same substance and colour as the petals, but usually more deeply lobed at each side, spreading equally with them, and about the same length, pale and somewhat tumid at its base. *Germen* oval, sessile, tapering above into a sort of fruit-stalk, whence the flower hangs obliquely drooping. *Column* short, and thick. *Anthers* in front, roundish, pale brown. *Pollen masses* brown, on a short footstalk, with a large white gland.

Most tuberous-rooted Orchises present the two tubers (of the present and succeeding year) of nearly equal dimensions; but here, while the tuber which affords nourishment to the existing stem is sessile, large, and shrivelled, the other is seen forming a little swelling at the extremity of an horizontal fibre. The future years plant will thus arise at some considerable distance from its parent. See Hooker's *Fl. Lond.*

The drawing for the accompanying Plate was made from a plant kindly communicated to me by my much-esteemed friend Mr. W. Pamplin, jun. of Lavender Hill Nursery, Wandsworth, near London, June 28, 1838. I am also indebted to the Rev. E. Hill, M. A. of Ch. Ch. Oxford; and to the Rev. G. W. Sandys, of Stroud, Gloucestershire, for fine plants of this interesting little Orchis.

Centunculus minimus. Small Chaffweed. ☺

Pub.d by W. Baxter Botanic Garden Oxford 1838.

C. Mathews Del. & Sc.

CENTU'NCULUS*.

Linnean Class and Order. TETRA'NDRIA †, MONOGY'NIA.

Natural Order. PRIMULA'CEÆ, *Vent.*—Lindl. Syn. p. 182; Introd. to Nat. Syst. of Bot. p. 225.—Rich. by Macgilliv. p. 431.—Loud. Hort. Brit. p. 529.—Mack. Fl. Hib. p. 192.—Hook. Brit. Fl. (4th ed.) p. 415.—LYSIMACHIÆ, sect. 1. Juss. Gen. Pl. p. 95.—Sm. Gr. of Bot. p. 95.—SYRINGALES; subord. PRIMULOSÆ; sect. PRIMULINÆ; type, PRIMULACEÆ; subty. PRIMULIDÆ; Burn. Out. of Bot. v. ii. pp. 900, 958, 1020, 1024, & 1025.—ROTACEÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, in 4 deep, spear-shaped, acute, spreading segments, permanent. *Corolla* (figs. 2 & 3.) shorter than the calyx, of 1 sepal, tubular, withering; tube almost globular; limb in 4 egg-shaped, flat segments. *Filaments* (see figs. 3 & 4.) 4, short, equal, smooth, in the mouth of the tube. *Anthers* roundish, of 2 cells. *Germen* (fig. 5.) globose, in the tube of the corolla. *Style* cylindrical, upright, as long as the stamens, permanent. *Stigma* simple. *Capsule* (see figs. 6 & 7.) globose, of 1 cell, opening by a transverse incision. *Seeds* (fig. 8.) numerous, minute, angular, covering the large, central, globose, pitted *receptacle (placenta)*.

Distinguished from other genera, in the same class and order, by the inferior, tubular, 4-parted *corolla;* the short *stamens;* and the 1-celled, many-seeded *capsule*, bursting all round transversely.

One species British.

CENTU'NCULUS MI'NIMUS. Small Chaff-weed. Bastard Pimpernel.

SPEC. CHAR. Flowers sessile. Corolla without glands at the base.

Engl. Bot. t. 531.—Curt. Fl. Lond. t. 185.—Linn. Sp. Pl. p. 169.—Huds. Fl. Angl. (2nd ed.) p. 63.—Willd. Sp. Pl. v. i. p. 1. p. 653.—Sm. Fl. Brit. v. i. p. 185; Engl. Fl. v. i. p. 217.—With. (7th ed.) v. ii. p. 234.—Gray's Nat. Arr. v. ii. p. 298.—Lindl. Syn. p. 183.—Hook. Brit. Fl. p. 68.—Lightf. Fl. Scot. v. i. p. 119.—Abbot's Fl. Bedf. p. 30.—Davies' Welsh Bot. p. 17.—Relh. Fl. Cant. (3rd edit.) p. 64.—Hook. Fl. Scot. p. 54.—Fl. Devon. pp. 29 & 142.—Rev. G. E. Smith's Pl. of S. Kent, p. 9.—Walker's Fl. of Oxf. p. 41.—Macreight's Manual of British Botany, p. 189.—Mack. Catal. of Pl. of Irel. p. 19; Fl. Hibern. p. 192.—*Centunculus*, Dill. in Ray's Syn. opposite p. 1.—Blackst. Spec. Bot. p. 13.—*Anagallidastrum exiguum, foliis lanceolatis alternis, flore albo fugaci et vix conspicuo*, Mich. Gen. p. 14. t. 18. f. 2.

LOCALITIES—In moist sandy or gravelly places; not common.—*Bedfordsh.* Boggy ground on Ampthill Moor: Rev. C. ABBOT.—*Bucks;* On Gerard's Cross Common, near Bulstrode, in great plenty, with *Radiola millegrana:* Mr. GOTOBED.—*Cambridgesh.* Gamlingay Bogs: Rev. R. RELHAN.—*Cumberland;* Ravenglass: N. B. G.—*Devon;* Bovey Heathfield; and Petitor Marychurch: Rev. A. NECK.—*Dorset;* Poole, and Wareham Heaths, particularly where the soil has been laid bare by cutting turf; near the road-side about midway between Wimbourne and Poole: Dr. PULTENEY.—*Essex;* Bogs on Epping Forest near Highbeech: Mr. E. FOSTER, jun.—*Kent;* About Chiselhurst: DILLENIUS. On Ashford Common, with *Littorella lacustris:* CURTIS. Upon

Fig. 1. Calyx.—Figs. 2 & 3. Corolla.—Fig. 4. A Stamen.—Fig. 5. Germen.—Fig. 6 & 7. Capsule.—Fig. 8. A Seed.—*All*, except figs. 5 & 6, *more or less magnified.*

* A name, it appears, anciently given to the *Pimpernel*, a genus allied to this; and derived, according to THEIS, from *cento*, a *covering*, because it was a little weed that covered the cultivated fields. Sir W. J. HOOKER.

† See folio 114, note †.

Brabourne, Hothfield, and Willesboro' Leas: Rev. G. E. Smith. Sides of the road from Wells to Frant: *Fl. Ton.*—*Lancash.* Salt Marshes and Meadows near the sea-side, at Newton Cartmel, common: Mr. Hall.—*Middlesex;* On the low marshy ground near the Paper Mills on Hounslow Heath: Sir W. Watson. Near Hampton Court: Hudson. On Iver Heath, in abundance: Rev. Dr. Goodenough.—*Norfolk;* Plentiful on South Wootton Heath by Lynn: Mr. E. Foster, jun. Filby Heath, very near the water: Dawson Turner, Esq.—*Staffordsh.* Blithfield: Hon. Mr. Bagot.—*Suffolk;* On East Heath, near Lowestoft: Mr. Lilly Wigg.—*Surrey;* Shirley Common, and Barnes Common: *Fl. Metr.* Coulsdon: E. Woods, in N. B. G.—*Sussex;* In St. Leonard's Forest; on Chailey, Washington, Horsham, Henfield, and other Commons: W. Borrer, Esq. On Harefield Common: C. C. Babington, in N. B. G.—Ashdown Forest: W. H. Coleman, in N. B. G.—In *Worcestershire:* Mr. E. Lees, in N. B. G.—*Yorksh.* Houghton Moor, the side next to Newbold: Teesdale.—WALES. *Anglesea;* Side of Llyn Coron; and in a Splash near Bangor Ferry, S. W. side of the road: Rev. H. Davies.—*Denbighsh.* In a piece of moist ground about a mile from Llanwrst, and within three or four yards of the turnpike road leading from thence to Conway: Mr. Griffith. —SCOTLAND. *Ayrshire;* Prestwick Moor, near Ayr: G. Macnab, in N. B. G.—*Elginsh.* West from Stotfield; sides of Loch Spynie: *N. Fl.* Kinloss: N. J. Winch, Esq.—*Forfarsh.* Moor behind the Hill of Guthrie: N. B. G. —*Lanarksh.* Marsh near Langside: Dr. Brown.—Kenmuir Bog, Glasgow: Hopkirk.—In the *Isle of Man:* G. Howitt, in N. B. G.—*Nairnsh.* Sea-coast near Lochlee: W. Stables, in N. B. G.—IRELAND. Marshes at Glangariff, and Ballylickey near Bantry: Mr. T. Mackay. On the Ross Islands, County of Donegal: Mr. E. Murphy. Coast near Coleraine: Mr. D. Moore.

Annual.—Flowers in June and July.

Root simple and fibrous. *Stem* simple or branched, from 1 to 2 inches high, round, smooth, striated, shining, often reddish. *Leaves* alternate, or nearly opposite, sessile, 2 or 3 lines long, egg-shaped, pointed, entire, somewhat succulent, smooth, both surfaces covered with minute, shining pustules. *Flowers* very small, solitary, sessile, in the axils of the leaves. Segments of the *Calyx* spear-shaped, pointed, longer than the capsule. *Corolla* white or reddish, shorter than the calyx.

An interesting little plant, "remarkable for the minuteness of all its parts, but more especially of its blossoms, which are not expanded so as to shew the interior structure of the flowers, unless the sun shines strongly on them, then we discern their yellow stamina: Dillenius, who first gave to this plant the name of *Centunculus*, and made a new genus of it, remarks a circumstance deserving notice, which is, that the corolla, which in most of the *rotaceæ* (wheel-shaped flowers) drops after blossoming, here continues, and covers the top of the capsule." Curtis, in *Fl. Lond.*— The *flowers* are said to be occasionally 5-cleft, by which they approach *Anagallis;* but the tubular *corolla*, and naked *stamens*, keep *centunculus* distinct. *Engl. Fl.*

This little plant is probably not so rare as it is generally supposed to be; its diminutive size rendering it likely to be often overlooked.—The drawing for the accompanying Plate was made from a plant which was kindly communicated to me by W. Borrer, Esq. of Henfield, Sussex.

The *Natural Order* Primulaceæ, is composed of herbaceous dicotyledonous *plants*, with usually opposite, or whorled, or scattered *leaves*. A divided, 5-cleft, seldom 4-cleft, inferior, regular, permanent *calyx*. A monopetalous, hypogynous, regular *corolla*, with a 5-cleft, rarely 4-cleft limb. A 1-celled *ovarium;* a single *style;* and a capitate *stigma*. A valvate *capsule*, with a distinct, central *placenta;* and numerous peltate *seeds;* with a transverse *embryo*, in a fleshy *albumen*.

Delphinium Consolida. Field Larkspur.

Published by W. Baxter, Botanic Garden, Oxford 1838.

DELPHI'NIUM*.

Linnean Class and Order. POLYA'NDRIA†, PENTAGY'NIA.

Natural Order. RANUNCULA'CEÆ‡, Juss. Gen. Pl. p. 231.—Sm. Gram. of Bot. p. 136.—Lindl. Syn. p. 7.; Introd to Nat. Syst. of Bot. p. 6.—Rich. by Macgilliv. p. 465.—Loud. Hort. Brit. p. 495; Mag. Nat. Hist. v. i. p. 137.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 2.—Mack. Fl. Hib. p. 4.—Hook. Brit. Fl. (4th ed.) p. 395.—ROSALES; sect. RANUNCULINÆ; subsect. RANUNCULIANÆ; type, RANUNCULACEÆ; subtype, HELLEBOREÆ; Burn. Outl. of Bot. v. ii. pp. 616, 828, 832, 837, & 839.—MULTISILIQUÆ, *Linn.*

GEN. CHAR. *Calyx* none. *Corolla* inferior, of 5 unequal, spreading petals, the upper one (see fig. 3.) extended behind into a long, tubular, straight, bluntish spur; the rest egg-oblong, with claws (see fig. 2.), various in various species. *Nectary* (fig. 3.) divided, of 1 or 2 sessile leaves, placed in front within the row of petals, on the upper side, extended behind in the form of a tube, contained in the spur of the uppermost petal. *Filaments* (fig. 1.) numerous, awl-shaped, dilated at the base, much shorter than the corolla, directed upwards. *Anthers* roundish, small, upright. *Germen* superior, 3 or 1, or 5, egg-shaped, each terminating in a *style* shorter than the stamens. *Stigmas* simple, reflexed. *Capsules (folicles)* (fig. 5.) as many as the germens, egg-oblong, or somewhat cylindrical, of 1 valve, bursting at the inner side. *Seeds* (fig. 6.) numerous, angular, rough, at the edges of the capsule.

Distinguished from other genera, without a *calyx*, in the same class and order, by the *corolla* of 5 petals, the upper one spurred; and the divided, tubular *nectary*, with appendages included within the spur.

One species British.

DELPHI'NIUM CONSO'LIDA§. Uniting Larkspur. Branched Larkspur. Field Larkspur. Lark's-heel. Lark's-claw.

SPEC. CHAR. Stem upright, with divaricating branches. Flowers few, in long racemes. Pedicels longer than the bracteas. Capsules solitary.

Engl. Bot. t. 1839.—Curt. Brit. Entom. v. ii. t. 76.—Linn. Sp. Pl. p. 748.—Huds. Fl. Angl. (2nd ed.) p. 235.—Willd. Sp. Pl. v. ii. pt. ii. p. 1226.—Sm. Fl. Brit. v. ii. p. 577.; Engl. Fl. v. iii. p. 30.—With. (7th ed.) v. iii. p. 664.—Lindl. Syn. p. 13.—Hook. Brit. Fl. p. 261.—Abb. Fl. Bedf. p. 118.—Purt. Midl. Fl. v. i. p. 254; and v. iii. p. 362.—Relh. Fl. Cant. (3rd ed.) p. 217.—Winch's Fl. of Northumb. and Durh. p. 36.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 50.—Walker's Fl. of Oxf. p. 152.—*Delphinium segetum, flore cæruleo*, Dill. in Ray's Syn. p. 273.—*Consolida regalis*, Gray's Nat. Arr. v. ii. p. 711.—*Consolida regalis sativa*, Johnson's Gerarde, p. 1082.

Fig. 1. Stamens.—Fig. 2. A Petal.—Fig. 3. Nectary, with one of the petals attached.—Fig. 4. Front of the Nectary, and Stamens.—Fig. 5. Capsule.—Fig. 6. A Seed.

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* From *Delphinos*, Gr. a *Dolphin*; from a fancied resemblance of the unopened flower to the dolphin of the ancients, as displayed in heraldry. WITHERING.

† See folio 43, note †. ‡ See folio 129, *a*.

§ From *consolido*, to unite; it being formerly reputed as a most powerful vulnerary.

Localities.—Corn-fields, on a sandy or chalky soil; rare.—*Oxfordshire;* I have sometimes seen it in corn-fields between the Parks and Summertown, but it had most probably escaped from gardens, for in the same locality I have frequently observed many other garden-flowers growing wild: W. B.—*Bedfordsh.* St. Leonard's Farm, near Bedford: Rev. C. Abbot.—*Cambridgesh.* By the lower road to Gogmagog Hills; Hinton, Trumpington, Feversham, Swaffham, Bottisham, &c.: Rev. R. Relhan. "About Cambridge, at Quay, the hills are quite blue with it; and yet Ray does not mention it:" Rev. Professor Henslow.—*Dorset;* In several fields near Blandford, and elsewhere, but sparingly: Dr. Pulteney.—*Durham;* In a limestone quarry near Bishopwearmouth: Mr. Backhouse. On the Ballast-hills of Tyne and Wear; on Hebburn Ballast-hills: N. J. Winch, Esq. In cornfields at Norton: J. Hogg, Esq.—*Essex;* Near Woodford, in a little inclosure between Woodford Hall and the road; not common: R. Warner, Esq.—*Kent;* Fields between Blackheath and Eltham: Dr. Dillenius. In King's Field, near Faversham: E. Jacob, Esq. Near the High Rocks: *Fl. Ton.*—*Leicestersh.* Observed for two or three years successively among the corn in the fields at Loughborough: Dr. Pulteney.—*Norfolk;* About Feltwell, near Brandon: Mr. F. Smith. Ditchingham: Mr. Woodward. Barton Bendish, and Oxburgh: Rev. R. Forby. Corn-field, Docking: *New Bot. Guide.*—*Northumberland,* On the Ballast-hills of Tyne; and in a clover-field near the Lough on Holy Island: N. J. Winch, Esq.—*Nottinghamsh.* Nottingham Park; Trent side near Wilford: Dr. Howitt, in N. B. G.—*Shropsh.* Devenport Woods: W. A. Leighton, in N. B. G.—*Suffolk;* Near Bury: Rev. Dr. Goodenough. Fields about Aldborough at the Hall Farm: Rev. G. Crabbe.—*Surrey;* In Battersea Fields, but probably escaped from gardens: Mr. W. Pamplin, jun. Ditton Common, on rubbish heaps; and sparingly on Hersham Green, in 1836: Mr. Watson, in N. B. G.—*Warwicksh.* Studley, in the Castle Field: T. Purton, Esq.—*Worcestersh.* In a field by Pershore: Merrett. Near Grimley: Mr. Edmunds.—*Yorksh.* Corn-field near Ripon, rare: Mr. Brunton.—WALES. *Glamorgansh.* Truly wild on the sandy shores of Swansea Bay: Mr. E. Lees, in N. B. G.—SCOTLAND. *Edinburghsh.* Shore near Edinburgh: J. Gravis, in N. B. G.

Annual.—Flowers from June to August.

Root simple, slender. *Stem* from 1 to 2 feet high, upright, leafy, finely downy, branched; branches alternate, widely spreading. *Leaves* sessile, divided down to the base into 3 or 5 parts, which are deeply cut into slender, strap-shaped segments, often forked at the end. *Stipulas* none. *Racemes* terminal, of few flowers. *Bracteas* at the base, and in the middle, of each pedicel (partial flower-stalk) simple or divided. *Flowers* blue, varying to purple, pink, and white, or variegated with these colours. *Petals* irregularly scolloped at the edge; the lateral ones broadest; the uppermost spear-shaped, not blunter than the rest, rather shorter than the nectary, but projecting backwards into a conical tube. *Nectary* of a single leaf, placed within the upper petal. *Anthers* double, yellow. *Germen* and *Capsule* solitary, downy, with a short permanent *style*. *Seeds* angular, blackish, very rough.

This species is a native in corn-fields throughout Europe, also in Pennsylvania, and Virginia. A double-flowered variety of it is often cultivated in gardens, and is also occasionally met with in a wild state; the Rev. R. Relhan found it in a field by the footpath from Shelford to Gogmagog-hill near Cambridge.

The expressed juice of the petals, with the addition of a little alum, makes a good blue ink. The seeds are acrid and poisonous. They are said to enter into the composition of certain French cosmetics, which, although primarily efficient, are found, by continued use, to be very destructive to the skin. A tincture of the seeds, in doses of 20 or 30 drops, is said to be serviceable in asthma; it produces a slight degree of nausea, but in overdoses is injurious. The active properties of the *Delphinia* seem to depend upon a peculiar alkaloid, which has been called *delphine*. According to the observations of Linnæus, sheep and goats eat the plant; horses are not fond of it; cows and swine refuse it. The caterpillar of *Phalæna Delphinium* lives upon it; and it is said likewise to constitute the favourite food of the rare and singularly elegant moth, and caterpillar, *Charielea Delphinii*. Curt. Brit. Entom. v. ii. t. 76. See Burn. Outl. of Bot., and With. Bot. Arr.

Urtica dioica. Great Nettle. U

C. Mathews Del. & Sc. Pub.d by W Baxter Botanic Garden. Oxford 1838

URTI'CA *.

Linnean Class and Order. MONŒ'CIA †, TETRA'NDRIA.

Natural Order. URTI'CEÆ, Lindl. Syn. p. 218.; Introduct. to Nat. Syst. of Bot. p. 93.—Rich. by Macgilliv. p. 540.—Loud. Hort. Brit. p. 534.—Mack. Fl. Hibern. p. 232.—Hook. Brit. Fl. (4th ed.) p. 419.—URTICÆ, Juss. Gen. Pl. p. 400.—QUERNEALES; sect. URTICINÆ; type, URTICACEÆ; subtype, URTICIDÆ; Burn. Outl. of Bot. v. ii. pp. 523, 541, & 558.—SCABRIDÆ, *Linn.*

GEN. CHAR. *Sterile Flowers* (figs. 2 & 3.) *Calyx* (see fig. 1.) of 4 roundish, concave, blunt, equal sepals, containing the cup-shaped rudiment of a pistil (nectary, *Linn*). *Corolla* none. *Filaments* (see fig. 3.) 4, awl-shaped, spreading, opposite to the sepals, and about as long. *Anthers* of 2 round lobes. *Fertile Flowers* (see figs. 5 & 7). *Calyx* (see fig. 5.) inferior, of 2 equal, roundish, concave sepals. *Corolla* none. *Germen* (figs. 5 & 6.) superior, egg-shaped. *Style* none. *Stigma* (see figs. 5 & 6.) downy. *Seed* (figs. 8 & 9.) 1, naked, egg-shaped, rather compressed, polished, enclosed in the permanent calyx (see fig. 7).

The *sterile flower* with a *calyx* of 4 sepals, containing the cup-shaped rudiment of a pistil; and the *fertile flower* with a *calyx* of 2 sepals, and a superior, 1-seeded fruit enclosed in the permanent calyx; will distinguish this from other genera, without a corolla, in the same class and order.

Three species British.

URTI'CA DIO'ICA. Dioicous Nettle. Great Nettle. Common Stinging-Nettle.

SPEC. Char. Leaves opposite, heart-shaped, pointed. Clusters much branched, in pairs, mostly dicœcious. Roots creeping.

Engl. Bot. t. 1750.—Curt. Fl. Lond. t. .—Woodv. Med. Bot. v. iii. p. 396. t. 146.—Curt. Brit. Entomol. v. vi. t. 288.—Linn. Sp. Pl. p. 1396.—Huds. Fl. Angl. (2nd ed.) p. 417.—Willd. Sp. Pl. v. iv. pt. 1. p. 352.—Sm. Fl. Brit. v. iii. p. 1016.; Engl. Fl. v. iv. p. 135.—With. (7th ed.) v. ii. p. 237.—Gray's Nat. Arr. v. ii. p. 252.—Lindl. Syn. p. 219.—Hook. Brit. Fl. p. 403.—Lightf. Fl. Scot. v. ii. p. 578.—Sibth. Fl. Oxon. p. 62.—Abbot's Fl. Bedf. p. 208.—Thornt. Fam. Herb. p. 753, with a figure.—Davies' Welsh Bot. p. 89.—Purt. Midl. Fl. v. ii. p. 453.—Relh. Fl. Cant. (3rd ed.) p. 391.—Hook. Fl. Scot. p. 271.—Grev. Fl. Ed. p. 201.—Fl. Devon. pp. 153 and 136.—Johnst. Fl. of Berw. v. i. p. 205.—Winch's Fl. of Northumb. and Durh. p. 61.—Walker's Fl. of Oxf. p. 278.—Loud. Encyclop. of Gard. (ed. 1835) p. 882. parag. 4702.—Bab. Fl. Bath. p. 45.—Dick. Fl. Abred. p. 56.—Mack. Catal. of Pl. of Irel. p. 81.; Fl. Hibern. p. 233.—*Urtica racemifera major perennis*, Ray's Syn. p. 139.—*Urtica urens*, Johns. Ger. p. 706.

LOCALITIES.—Waste places, under walls, on hedge-banks, rubbish, and by road-sides; very common.

Perennial.—Flowers in July and August.

Fig. 1. Calyx of Sterile Flower.—Figs. 2 & 3. Sterile Flowers.—Fig. 4. Imperfect cup-shaped Pistil of ditto.—Fig. 5. A Fertile Flower.—Fig. 6. Germen and Pistil of ditto.—Fig. 7. Seed, accompanied by the permanent calyx.—Figs. 8 & 9. Seed.—Fig. 10. A Sting.—*All*, except fig. 8, *magnified*.

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* From *uro*, to *burn*; in allusion to its stinging property.

† See folio 83, note †.

Root branching and creeping, tough, yellowish, jointed, and sending down, from the joints, many fibrous radicles. *Stems* many, from two to four feet high, upright, very little branched, bluntly 4-cornered, furrowed, purplish. *Leaves* large, opposite, on slender petioles, heart-shaped, pointed, strongly serrated, veiny, dull green, clothed, like the stems, with stinging bristly hairs *Stipulas* egg-shaped, upright. *Clusters* in pairs, much branched, many-flowered, *Flowers* on one root, chiefly sterile; on another mostly fertile. *Calyx* of the latter occasionally with 2, or more, supernumerary leaves. *Seeds* egg-shaped, compressed, whitish, shining.

This plant is a native all over Europe; in Barbary, Siberia, and Japan. It is observed by Dr. JOHNSTON, in his excellent and very interesting work, the *Flora of Berwick-upon-Tweed*, that "the Nettle is always found near the abodes of man. Wherever he has sojourned, it is said to have accompanied him; and it remains to take possession of his deserted dwellings, so that its presence has become associated with the ideas of ruin and desolation. 'I went by the field of the slothful, and by the vineyard of the man void of understanding; and, lo, it was all grown over with thorns, and *nettles* had covered the face thereof, and the stone wall thereof was brokeu down.'"

In Scotland, Poland, and Germany, the young tops of the Nettle are gathered early in the Spring as a pot-herb for soups, or for dishes like spinach; and their peculiar flavour is by many much esteemed. Of late it has been recommended for forcing, for which it is well adapted. (See Mr. LOUDON'S *Ency. of Gardening.*)

The roots boiled with alum will dye yarn of a yellow colour. Eggs are thus stained yellow preparatory to the feast of Easter by the religious of the Greek church. With the juice of the herb woollen stuffs may be dyed a beautiful and permanent green. The plant formerly was used as an astringent, but is now disregarded. A leaf put upon the tongue and pressed against the roof of the mouth, is said to be efficacious in stopping a bleeding at the nose; and we are told, that paralytic limbs have been recovered by stinging them with nettles. The fibrous texture of the stem has been manufactured into cloth; and it appears from some experiments made in Ireland, that the thread, in colour, strength, and fineness, is equal to that obtained from flax. In Siberia and the northern parts of Europe, cords, cloths, and even paper, are made from this plant. A decoction of Nettles strongly salted, (a quart of salt to 3 pints of the decoction,) it is said, will coagulate milk readily, without giving it any unpleasant flavour. The stings are very curious microscopic objects; they consist of an exceedingly fine pointed, tapering, hollow bristle, perforated at the extremity, and seated on a glandular mass of cellular tissue, which secrets the poison (see fig. 10). When the hand is gently pressed against them, the delicate point penetrates some pore of the skin, at the same time the bristle is forced against the gland at its base, and the poison rises into the tube in a manner strictly analogous to that by which a discharge of venom is effected from the fangs of a serpent's tooth, and the caustic fluid being thus introduced into the wound made by the point of the sting, produces the painful sensations familiar to all who have ever handled this plant. The Nettle has ever been stigmatized as the emblem of an irritable and waspish temper, but in truth with little justice, for when does it prove the aggressor, or engage in active warfare against its neighbour? To how many little creatures does it afford friendly protection and subsistence; for Entomologists assure us, that not less than 30 species of insects are nurtured upon the Nettle alone. See *Withering's Bot. Arr.* 7th edition.

Æcidium Urticæ, and a species of *Erysiphe*, are common on the leaves of the Nettle in the Summer and Autumn; and in the Winter and Spring, on the dead stems of this plant, will be found *Acrospermum compressum*, *Fusarium tremelloides*, *Rhytisma Urticæ*, *Sphæria acuta*, *Sp. herbarum*, and 2 or 3 species of *Peziza*.

Holosteum umbellatum. Umbelliferous Chickweed. ☉

Published by W Baxter Botanic Garden, Oxford. 1838

J Russell Del

W Wills

HOLOSTEUM *.

Linnean Class and Order. TRIA'NDRIA †, TRIGY'NIA.

Natural Order. CARYOPHY'LLEÆ ‡, *Linn* —Juss. Gen. Pl. p. 299.—Sm. Gram. of Bot. p. 159.—Lindl. Syn. p. 43.; Introd. to Nat. Syst. of Bot. p. 156.—Rich. by Macgilliv. p. 507.—Loud. Hort. Brit. p. 501.—Don's Gen. Syst. of Gard. & Bot. v. i. p. 379.—Mack. Fl. Hib. p. 40.—Hook. Brit. Fl. (4th ed.) p. 400.—ROSALES; subord. RHŒADOSÆ; sect. DIANTHINÆ; type, DIANTHACEÆ; Burn. Outl. of Bot. pp. 614, 784, 805, & 807.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 5, egg-shaped, concave, permanent sepals. *Corolla* (fig. 2.) of 5, oblong, petals, unequally jagged or toothed, deciduous. *Filaments* (see fig. 4.) 3, occasionally more, hair-like. *Anthers* roundish. *Germen* (see figs. 4 & 5.) roundish. *Styles* (see figs. 4 & 5.) 3, slender, short. *Stigmas* bluntish, downy. *Capsules* (figs. 6 & 7.) nearly cylindrical, of 1 cell, splitting at the top into 6 recurved teeth, finally separable into as many pellucid valves. *Receptacle* (fig. 8.) central, oblong. *Seeds* (figs. 9 & 10.) numerous, stalked, peltate, roundish, rough.

The *calyx* of 5 sepals; the *corolla* of 5 petals, jagged or toothed at the apex; and the 1-celled, many-seeded, *capsule*, with 6 teeth; will distinguish this from other genera, in the same class and order.

One species British.

HOLO'STEUM UMBELLA'TUM. Umbelled Holosteum. Umbelliferous jagged Chickweed. Broad-leaved Wild Pink.

SPEC. CHAR. Root-leaves elliptical, glaucous, smooth; stem-leaves larger, egg-shaped. Flowers umbellate. Common Peduncles clammy-pubescent; pedicels deflexed after flowering.

Engl. Bot. t. 27.—Rose's Elem. of Bot. Append. p. 445. t. 2 f. 4.—Linn. Sp. Pl. p. 130.—Willd. Sp. Pl. v. i. pt. 1. p. 689.—Sm. Fl. Brit. v. i p. 161.; Engl. Fl. v. i. p. 187.—With. (7th ed.) v. ii. p. 209.—Gray's Nat. Arr. v. ii. p. 656.—Lindl. Syn. p. 50.—Hook. Brit. Fl. p. 58.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 424.—Macr. Man. Brit. Bot. p. 32.—*Cerástium umbellatum*, Hook. Fl. Lond. t. 13.—Huds. Fl. Angl. (2nd ed.) p. 201.—*Caryophyllus holostius arvensis*, Johnson's Gerarde, p. 595.

LOCALITIES.—*On old walls, banks, and in sandy corn-fields; very rare.*—*Middlesex;* On the walls of Chelsea Physic Garden: DAWSON TURNER, Esq.—*Norfolk;* In great plenty on the city walls of Norwich, and many other old walls of that city, and on some banks and walls in the neighbourhood; first noticed by Mr. JOHN PITCHFORD, in the Spring of 1765: Mr. H. ROSE, in *Elem. of Bot.*—*Suffolk;* On walls, and the thatched roofs of houses at Bury: Sir T. G. CULLUM. At Eye; May 1, 1838: Honourable ANNE TOWNSEND.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. A Petal.—Fig. 4. Stamens, Germen, and Styles.—Fig. 5. Germen.—Fig. 6. Capsule and permanent Calyx.—Fig. 7. Capsule without the Calyx.—Fig. 8. Columella, or receptacle of the Seeds.—Figs. 9 and 10. Seeds.—Figs. 11 and 12. Back and front view of a Seed, *more highly magnified.*

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* From *olos*, Gr. *all;* and *osteon*, Gr. a *bone;* applied by ANTIPHRASIS to this plant, the texture being the very reverse, soft and delicate; or, according to Dr. THORNTON, from its supposed virtue as restoring *broken* bones.

† See folio 56, note †. ‡ See folio 152, *a*.

Annual.—Flowers in April and May.

Root small, slightly branched, fibrous. *Stems* thread-shaped, round, weak, and partly decumbent, branched from the bottom only, from 3 to 6 inches high, leafy; hairy and glutinous between the joints at the upper part. *Root-leaves* elliptical; *cauline ones* somewhat egg-shaped, rather larger, opposite, tapering at the base into short, broad, combined *petioles (leaf-stalks)*; all single-ribbed, glaucous, rather succulent, and quite entire and even at the edges. *Peduncles (flower-stalks)* hairy and clammy. *Pedicels* about 5, terminal, umbellate, simple, spreading, at length partly reflexed, afterwards upright. *Bracteas* several, small, at the base of the pedicels. *Calyx* smooth, brownish. *Corolla* white, or pale reddish; petals elliptic-oblong, variously and unequally toothed at the summit, not deeply and regularly cloven as in the *cerastia*. *Stamens* and *Pistils* 3, sometimes more. *Capsule* somewhat egg-shaped, or nearly cylindrical, 1-celled, opening at the top into 6 teeth or valves. *Seeds* numerous, somewhat 3-cornered, reddish, and rough with scattered dots.

This singular and interesting little plant is a native of many other parts of Europe as well as of England, as Spain, Italy, France, Germany, and Switzerland, where it is found in similar situations to those of its localities in England.

The specimen from which the drawing for the accompanying plate was made, was obligingly communicated to me from the vicinity of Eye, in Suffolk, by the Honourable ANNE TOWNSEND, May 1, 1838.

ALL NATURE PROCLAIMS A DEITY.

"THERE is a voiceless eloquence on earth
Telling of HIM who gave her wonders birth;
And long may I remain th' adoring child
Of Nature's majesty, sublime or wild;
Hill, flood, and forest, mountain, rock, and sea,
All take their terrors, or their charms from Thee,
From Thee, whose hidden but supreme control
Moves through the world, a universal soul.

But who could trace Thine unrestricted course,
Though Fancy followed with immortal force?
There's not a blossom fondled by the breeze,
There's not a fruit that beautifies the trees,
There's not a particle in sea or air,
But Nature owns Thy plastic influence there!
With fearful gaze, still be it mine to see
How all is fill'd and vivified by Thee;
Upon thy mirror, earth's majestic view,
To paint Thy Presence, and to feel it too."

R. MONTGOMERY.

Nardus Stricta. Mat-grass. 4

Pub.d by W. Baxter Botanic Garden Oxford 1838.

C. Mathews, del. & Sc.

NA'RDUS*.

Linnean Class and Order. TRIA'NDRIA †, MONOGY'NIA.

Natural Order. GRAMI'NEÆ, Juss. Gen. Pl. p. 28.—Sm. Gram. of Bot. p. 86; Engl. Fl. v. i. p. 71.—Lindl. Syn. p. 293.; Introd. to Nat. Syst. of Bot. p. 292.—Rich. by Macgilliv. p. 393.—Loud. Hort. Brit. p. 542.—Mack. Fl. Hibern. p. 294.—Hook. Brit. Fl. (4th ed.) p. 426.—GRAMINA, *Linn.*—GRAMINALES; Burn. Outl. of Bot. v. i. p. 359.

GEN. CHAR. *Common receptacle (rachis)* (see fig. 5.) linear, toothed, unilateral. *Flowers* (fig. 1.) alternate, sessile, all directed one way, perfect. *Glumes* none. *Paleæ* (see fig. 1.) 2, unequal, spear-shaped, pointed; the outer one largest, concave, wrapping up the inner (see fig. 2.), which is flat. *Filaments* (see figs. 1 & 2.) 3, hair-like, shorter than the paleæ. *Anthers* oblong. *Germen* (see fig. 3.) superior, oblong, slender. *Style* (see fig. 3.) 1, short. *Stigma* (see fig. 3.) 1, long, feathery. *Seed* (fig. 4.) 1, linear, pointed at each end, invested with the permanent paleæ.

The 2 *paleæ*, without glumes, will distinguish this from other genera in the same class and order.

One species British.

NA'RDUS STRI'CTA. Stiff Mat-grass. Common Mat-grass. Small Mat-weed. Heath Mat-weed.

SPEC. CHAR. Spike bristle-shaped, straight. Florets all pointing one way. Leaves thrice the length of their sheaths.

Engl Bot. t. 290.—Knapp's Gram. Brit. t. 2.—Schreb. Gram. p. 65. t. 7.—Mart. Fl. Rust. t. 27.—Curt. Brit. Entom. v. ix. t. 390.—Linn. Sp. Pl. p. 77.—Huds. Fl. Angl. (2nd ed.) p. 22.—Leers' Fl. Herb. (2nd ed.) p. 11. t. 1. f. 7.—Willd. Sp. Pl. v. i. pt. 1. p. 314.—Sm. Fl. Brit. v. i. p. 61.; Engl. Fl. v. i. p. 70.—With. (7th ed.) v. ii. p. 98.—Gray's Nat. Arr. v. ii. p. 87.—Lindl. Syn. p. 296.—Hook. Br. Fl. p. 26.—Macr. Man. of Brit. Bot. p. 276.—Lightf. Fl. Scot. v. i. p. 90.—Sibth. Fl. Oxon. p. 33.—Abbot's Fl. Bedf. p. 11.—Davies' Welsh Bot. p. 7.—Purt. Midl. Fl. v. i. p. 66.—Relh. Fl. Cant. (3rd ed.) p. 24.—Hook. Fl. Scot. p. 21.—Grev. Fl. Edin. p. 13.—Fl. Devon. pp. 9 & 120.—Rev. G. E. Smith's Pl. of S. Kent, p. 6.—Johnston's Fl. of Berwick, v. i. p. 18.—Winch's Fl. of Northumb. and Durham, p. 4.—Walker's Fl. of Oxf. p. 15.—Perry's Pl. Varvic. Selectæ, p. 7.—Dick. Fl. Abred. p. 22.—Mack. Catal. of Pl. of Irel. p. 11.; Fl. Hibern. p. 318.—*Gramen sparteum juncifolium*, Scheuchz. Agrost. p. 90. t. 2. f. 10.—Ray's Syn. p. 393.—*Spartum nostras parvum*, Johnson's Gerarde, p. 1631.

LOCALITIES.—On barren moors and heaths; not uncommon.

Perennial.—Flowers in June and July.

Fig. 1. A Floret expanded, showing the Stamens and Pistil.—Fig. 2. A Floret closed.—Fig. 3. Germen and Pistil.—Fig. 4. A Seed.—Fig. 5. Part of the Rachis.—Fig. 6. A small bit of the upper part of the Culm, by mistake marked fig. 5 in the plate. *All more or less magnified.*

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* From *nardos*, Gr.; formerly applied to an odoriferous substance, but which is not applicable in this case. HOOKER.

† See folio 56, note †.

Root of numerous, very strong, downy fibres. *Culms (stems)* numerous, from 4 to 8, or 10 inches high, upright, rigid, wiry, somewhat furrowed, with from 1 to 3 joints near the base, with a short leaf to each; the upper part naked, and roughish with minute bristles (see fig. 6). *Root-leaves* very numerous, long, bristle-like, furrowed, roughish, and, like the culms, remaining bleached through the winter. *Sheaths (vaginæ)* about one-third the length of the leaves, membranaceous, whitish. *Stipula (ligula)* egg-shaped, prominent. *Spike* long, upright, yellowish-white, or violet-coloured; *rachis (spike-stalk)* (see fig. 5.) grooved and toothed at short distances for the insertion of the florets, which are placed alternately in two rows, and all point to one side. *Paleæ (*valves of the *corolla)* (see fig. 1.) spear-shaped, outer one coriaceous, purplish-green, awned; inner one smaller, membranous, awnless. *Style* and *Stigma* single. *Plant* tufted, and surrounded at the base with the remains of the old culms and leaves.

This is easily distinguished from all other British Grasses by the florets having one style only; by the slenderness and rushy stiffness of the culms and leaves; and by the florets being thinly dispersed along the spike, mostly in pairs, and all pointing in one direction.

It is an inferior grass, the whole herbage is stiff and hard to the touch, and being generally short and wiry, it eludes the stroke of the scythe, and takes off its edge, which makes it disliked by mowers; it is not often, however, that it comes under the scythe in England, as it seldom occurs with us, except about bogs on heaths and moors. It is a deep-rooted grass, and SCHRANK celebrates it as a safe support to the hands of the alpine Botanist, in precipitous situations, though it renders his path very slippery. From the observations of LINNÆUS, it appears that horses, sheep, and goats eat it; cows are not fond of it; and swine refuse it. Rooks stock it up for the sake of the larvæ of insects, which they find at the root.

With us it is not, that I know of, put to any use whatever; but Mr. SINCLAIR states, that the straw being long without joints, and very fine, equal, and tough, induces him to consider it as probably the best grass for the supply of straw for the Leghorn plat.

LINNÆUS informs us, in his *Lachesis Lapponica*, that in Smoland, this grass is called *Kaffa Skiægg*, or *Old Man's Beard;* at Pithœa, *Svinborst*, *Hog's Bristles;* and at Lulea, *Lapp-här*, *Lapland Hair*.

The north side of Shotover Hill, and the south side of Cumnor Hurst, are the only stations in which I have observed it in the neighbourhood of Oxford.—The drawing for the accompanying plate was made from a specimen given me by my friend, Mr. W. WILLIS, of Wallingford, Berks.

1 2 3 4 5

I.Ruyell Del W.Wiles

Lithospermum purpuro-caeruleum Purple Gromwell. 4

Published by W.Baxter, Botanic Garden Oxford 1835

LITHOSPE'RMUM *.

Linnean Class and Order. PENTA'NDRIA †, MONOGY'NIA.

Natural Order. BORAGI'NEÆ ‡, Juss. Gen. Pl. p. 128.—Sm. Gram. of Bot. p. 102.—Lindl. Syn. p. 163.; Introd to Nat. Syst. of Bot. p. 241.—Rich. by Maegilliv. p. 410.—Loud. Hort. Brit. p. 527.—Don's Gen. Syst. of Gard. and Bot. v. iv. p. 306.—Mack. Fl. Hib. p. 167.—Hook. Brit. Fl. (4th ed.) p. 413.—ASPERIFOLIÆ, *Linn.*—Sm. Engl. Fl. v. i. p. 247.—SYRINGALES; subord. PRIMULOSÆ; sect. SOLANINÆ; type, BORAGINACEÆ; Burn. Outl. of Bot. v. ii. pp. 900, 958. 982, & 1005.

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, in 5 deep, spear-shaped, pointed, equal, nearly upright, keeled segments, permanent. *Corolla* (figs. 2 & 3.) of 1 petal, funnel-shaped; tube cylindrical, as long as the calyx, with a naked, open mouth; limb divided half way down into 5 equal, blunt, upright segments. *Filaments* (see fig. 3.) 5, very short, inserted into the tube. *Anthers* oblong, concealed within the tube. *Germens* (see fig. 4.) 4, inserted into the base of the calyx. *Style* (see fig. 4.) thread-shaped, shorter than the tube. *Stigma* blunt, notched. *Seeds (Nuts)* (f. 4.) 4, egg-shaped, pointed, hard, shining, either even or wrinkled, in the bottom of the moderately spreading calyx.

Distinguished from other genera with monopetalous, inferior flowers, and naked seeds, in the same class and order, by the funnel-shaped *corolla*, with a naked throat; the oblong, enclosed *anthers;* and the egg-shaped, hard *seeds* or *nuts.*

Four species British.

LITHOSPE'RMUM PURPURO-CŒRU'LEUM. Purple-blue flowered Gromwell. Creeping Gromwell. Pearl Plant. Lichwale.

SPEC. CHAR. Stems herbaceous; barren ones creeping; flowering ones upright. Leaves spear-shaped, acute, scabrous. Corolla much longer than the calyx. Seeds even.

Engl. Bot. t. 117.—Hook. Fl. Lond. t. 12.—Jacq. Fl. Austr. v. i. p. 11. t. 14.—Linn. Sp. Pl. p. 190.—Huds. Fl. Angl. (2nd ed.) p. 79.—Willd. Sp. Pl. v. i. pt. II. p. 754.—Sm. Fl. Brit. v. i. p. 214.; Engl. Fl. v. i. p. 255.—With. (7th ed.) v. ii. p. 279.—Lind. Syn. p. 164.—Hook. Br. Fl. p. 80.—Macr. Man. Br. Bot. p. 161.—Fl. Devon. pp. 34 & 151.—Don's Gen. Syst. of Gard. and Bot. v. iv. p. 321.—*Lithospérmum violáceum*, Lam. Fl. Fr. v. ii. p. 271.—*Lithospermum majus Dodonæi, flore purpureo, simine Anchusæ*, Ray's Syn. p. 229.—*Lithospermum majus*, Johnson's Gerarde, p. 609.—*Ægonychon repens*, Gray's Nat. Arr. v. ii. p. 354.

LOCALITIES.—In hedges and thickets, and in mountain and woody pastures, on a chalky soil, very rare.—*Cumberland;* In a wood at Castle-carrock: HUTCHINSON.—*Devon;* Dungeon Cliff, Petitor, and Marychurch: Rev. A. NECK.—*Herefordsh.* Northern parts of the county: DUNCUMB.—*Kent;* Near Greenhithe: Dr. LATHAM. In Darent Wood: Mr. W. CURTIS—*Somersetsh.* Near Taunton: RAY. Coppice between Axbridge and Wookey: Dr. MATON.

Fig. 1. Calyx.—Fig. 2. Calyx and Corolla.—Fig. 3. Corolla opened vertically to show the 5 stamens.—Fig. 4. Germen, Style, and Stigma.—Fig. 5. A Seed.

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* From *lithos*, Gr. a *stone;* and *sperma*, Gr. a *seed;* from its shining, very hard seeds, or nuts. Sir W. J. HOOKER.

† See folio 48, note †. ‡ See folio 102, *a*.

In Chedder Woods by the road-side as you go to Axbridge, abundantly: Mr. Sole, in B. G. In a copse near the road, between Bridgwater and Pawlett; South Brent, very plentiful on the brow of the hill, above the village: Mr. Clark, in N. B. G. Weston in Gordano: Miss Worsley, in N. B. G. In plenty about Tyntesfield in Wraxall Park: Rev. H. T. Ellicombe, June 11, 1838.—WALES. *Denbighsh.* On the top of a bushy hill near Denbigh, on the north side of the town: Ray. Found in the same place, now called the Crest, by Mr. Scott, about 1824: Mr. Griffith.—*Glamorgansh.* Near Caswell Bay: Mr. J. Turner.

Perennial.—Flowers in April and May.

Root woody, blackish on the outside, whitish within; much branched and tuffed. *Stems* numerous, round, simple, leafy, very rough with projecting bristly hairs; those stems which produce flowers are upright, from a foot to 18 inches high; those which do not flower are often much longer, trailing on the ground, and taking root at the extremity. *Leaves* numerous, alternate, spear-shaped, entire, contracted at the base into a short petiole (footstalk), tapering at the point, single-ribbed, clothed on both sides with short, close hairs, accompanied on the upper with many callous warts; the under side palest; margin somewhat revolute. *Flowers* showy, at first red, afterwards purple, in somewhat unilateral, leafy spikes, which grow 2 or 3 together at the top of the stem, and are short and recurved before flowing, but, as the flowers expand, they become upright and much elongated. *Calyx* bristly, divided to the base into 5 very narrow, strap-shaped, bluntish segments. *Corolla* twice as long as the calyx; externally reddish, the limb, when expanded, of a violet-blue on the upper side, with 5 pale swellings at its base, which do not close the tube, in whose upper part the *stamens* are situated. *Seeds* egg-shaped, hard, of a silvery white, highly polished, very slightly rugged, frequently abortive, as in many other plants that increase much by their roots. The segments of the calyx, after flowering, become much longer, as in *Lithospermum arvense*, and other plants of the same natural order.

A rather handsome species, and not unworthy a place in the flower garden. Its large and bright blue flowers will readily distinguish it from *L. officinale* and *L. arvense*, whose flowers are very small and whitish; and it differs from *L. maritimum*, the other British species, in the flowering stems being upright, rough, hairy, and dark-green; not procumbent, smooth, and glaucous.

"Who can paint
Like Nature! Can Imagination boast
Amid its gay creation, hues like her's?
Or can it mix them with that matchless skill,
And lay them on so delicately fine,
And lose them in each other, as appears
In every bud that blows?"

Thomson.

Ranunculus acris. Acrid Crowfoot. 4

Russell Del. Published by W Barter Botanic Garden Oxford 1838 W Willis Sc

RANU'NCULUS*.

Linnean Class and Order. POLYA'NDRIA†, POLYGY'NIA.

Natural Order. RANUNCULA'CEÆ‡, Juss. Gen. Pl. p. 231.—Sm. Gram. of Bot. p. 136.—Lindl. Syn. p. 7.; Introd. to Nat. Syst. of Bot. p. 6.—Rich. by Macgilliv. p. 465.—Loud. Hort. Brit. p. 495.; Mag. Nat. Hist. v. i. p. 137.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 2.—Mack. Fl. Hib. p. 4.—Hook. Brit. Fl. (4th ed.) p. 395.—ROSALES; sect. RANUNCULINÆ; subsect. RANUNCULIANÆ; type, RANUNCULACEÆ; subtype, RANUNCULEÆ; Burn. Outl. of Bot. v. ii. pp. 616, 828, 832, 837, & 839.—MULTISILIQUÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 5, rarely fewer, egg-shaped, concave, somewhat coloured, deciduous sepals, not lengthened at the base. *Corolla* (fig. 2.) of 5, rarely 8 or 10, blunt, polished petals, each with a nectariferous scale on the inside at the base (see fig. 3). *Filaments* (see fig. 4.) numerous, not half the length of the petals. *Anthers* roundish, linear, or heart-shaped, terminal, upright, of 2 cells, bursting at the outer edges. *Germens* (see fig. 5.) superior, numerous, collected into a head. *Styles* none. *Stigmas* small, reflexed. *Pericarps* or *Cariopsides (seeds* of Linn. and Smith.*)* (see figs. 6 & 7.) numerous, egg-shaped, somewhat compressed, either smooth, striated, tuberculated, or prickly, each tipped with a point or hook, arranged in a globose or cylindrical head. *Seed* erect, one in each pericarp.

The *calyx* of 5 sepals; the *corolla* of 5, or more, petals, each with a nectariferous scale at its base; and the numerous, 1-seeded *pericarps* (*seeds* of Sm.) without awns; will distinguish this from other genera in the same class and order.

Fifteen species British.

RANU'NCULUS A'CRIS. Acrid Crowfoot. Upright Meadow Crow-foot. Butter-flower. Butter-cup. King-cup.

SPEC. CHAR. Leaves 3- to 5-parted; segments 3-lobed and cut; those of the uppermost leaves strap-shaped and entire. Stem upright, many-flowered, covered with close hairs. Flower-stalks round and even. Calyx spreading. Pericarps smooth.

Engl. Bot. t. 652.—Curt. Fl. Lond. t. .—Mart. Fl. Rust. t. 30.—Woodv. Med Bot. Suppl. t 246.—Linn. Sp. Pl. p. 779.—Huds. Fl. Angl. (2nd edit.) p. 241.—Willd. Sp. Pl. v. ii. pt. ii. p. 1326.—Sm. Fl. Brit. v. ii. p. 593; Engl. Fl. v. iii. p. 51.—With. (7th ed.) v. iii. p. 680.—Gray's Nat. Arr. v. ii. p. 718.—Lindl. Syn. p. 11.—Hook. Brit. Fl. p 266.—Don's Gen. Syst. of Gard. & Bot. v. i. p. 35.—Macr. Man. of Brit. Bot. pp. 4 & 5.—Lightf. Fl. Scot. v. i. p. 293.—Sibth. Fl. Oxon. p. 174.—Abbot's Fl. Bedf. p. 122.—Thorn. Fam. Herb. p. 561, with a figure.—Davies' Welsh Bot. p. 55.—Purt. Midl. Fl. v. i. p. 259.—Relh. Fl. Cant. (3rd ed.) p. 224.—Hook. Fl. Scot. p. 174.—Grev. Fl. Edin. p. 125.—Fl. Devon. pp. 94 & 193.—Johnst. Fl. of Berw. v. i. p. 123.—Winch's Fl. of Northumb. and Durh. p. 38.—Walker's Fl. of Oxf. p. 157.—Perry's Pl. Varv. Select. p. 46.—Bab. Fl. Bath. p. 2.—Dick. Fl. Abred. p. 42.—Mack. Catal. of Pl. of Irel. p 53.; Fl. Hibern. p. 8.—*Ranunculus pratensis erectus acris*, Ray's Syn. p. 248.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. A Petal, with its nectariferous Scale.—Fig. 4. Stamens and Pistils.—Fig. 5. Calyx and Germens.—Fig. 6. Head of Pericarps.—Figs. 7. Single Pericarps.

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* From *rana*, a *frog*; from the plants delighting to grow where frogs abound. Sir W. J. HOOKER. † See folio 43, note †. ‡ See folio 129, *a*.

Localities.—In meadows and pastures; very common.
Perennial.---Flowers from April to July.

Root somewhat tuberous, with many long simple fibres. *Stem* from 1 to 2 feet high, upright, round, hollow, mostly clothed with close-pressed hairs; much branched at top, and many-flowered. *Root-leaves* on long, upright, hairy petioles; in 3 or 5 deep divisions, the middle division 3-lobed, the side ones usually 2-lobed, all sharply, and deeply toothed, and more or less hairy; *stem-leaves* of the same structure, but with shorter petioles, and fewer and narrower segments; *uppermost* much smaller, in 3, strap-shaped, entire lobes; or sometimes simple and strap-shaped. *Flower-stalks* round and even, not furrowed, covered with close hairs. *Calyx* yellowish, hairy or nearly smooth, spreading, not deflexed, deciduous. *Corolla* of a golden yellow, shining; *petals* nearly heart-shaped, their *nectary* covered by a scale. *Pericarps* (*seeds* of Sm.) smooth, terminated by a nearly straight point.

A variety with a double flower, is often cultivated in gardens, under the name of *Yellow Bachelors' Buttons* (see Curt. Bot. Mag. t. 215). It has been found wild by Mr. Winch.

The whole plant is very acrid and dangerous. Mr. Curtis says, that even pulling up the plant, and carrying it to some little distance, has produced a considerable inflammation in the palm of the hand. According to Linnæus, sheep and goats eat it; but cows, horses, and swine, refuse it.—The leaves have been pounded and applied as a poultice, when it produces a vesication like a blister. Rheumatic affections have often readily given way to its use.

Shakspeare's *Cuckoo-buds of yellow hue*, are supposed to be the *Buttercup* (see folio 141, *a*.); and he mentions it as the Cuckoo-flower in King Lear, Act iv. Scene 4.

"Nettles, *cuckoo flowers*,
Darnel, and all the idle weeds."

Many other quotations alluding to this plant might be given from the Poets, but I have only room here to introduce the following beautiful lines, written by Mrs. Howitt, and which cannot be otherwise than acceptable to those of my juvenile readers who have not seen that Lady's delightful little book, intitled "Birds and Flowers, and other Country Things."

"Buttercups and Daisies—oh, the pretty flowers
Coming ere the Spring time, to tell of sunny hours.
While the trees are leafless; while the fields are bare,
Buttercups and Daisies spring up here and there.

Ere the snow-drop peepeth; ere the crocus bold;
Ere the early primrose opes its paly gold,
Somewhere on a sunny bank Buttercups are bright;
Somewhere 'mong the frozen grass peeps the daisy white.

Little hardy flowers, like to children poor,
Playing in their sturdy health by their mother's door:
Purple with the north-wind, yet alert and bold,
Fearing not, and caring not, though they be a-cold!

What to them is weather! what are stormy showers!
Buttercups and daisies are these human flowers!
He who gave them hardship and a life of care,
Gave them likewise hardy strength, and patient hearts to bear.

Welcome yellow buttercups, welcome daisies white,
Ye are in my spirit visioned a delight?
Coming ere the spring-time of sunny hours to tell—
Speaking to our hearts of Him, who doeth *all things well*."

Cónium maculátum. Common Hemlock. δ

C. Matthews Del. & S. Publd by W. Baxter Botanic Garden Oxford 1838

CONI'UM*.

Linnean Class and Order. PENTA'NDRIA †, DIGY'NIA.

Natural Order. UMBELLI'FERÆ ‡, Juss. Gen. Pl. p. 218.—Sm. Gram. of Bot. p. 132.—Lindl. Syn. p. 111.; Introd. to Nat. Syst. of Bot. p. 4.—Rich. by Macgilliv. p. 463.—Loud. Hort. Brit. p. 515.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 235.—Mack. Fl. Hibern. p. 113.—Hook. Brit. Fl. (4th ed.) p. 408.—UMBELLATÆ, *Linn.*—ROSALES; sect. ANGELICINÆ; type, SMYRNIACEÆ; subtype, SCANDICIDÆ; Burn. Outl. of Bot. v. ii. pp. 614, 770, 780, & 781.

GEN. CHAR. *Flowers* (see fig. 1.) all perfect, slightly irregular. *Calyx* obsolete. *Corolla* (see fig. 1.) superior, of 5 inversely heart-shaped petals, with an acute, inflexed point (see fig. 2.); the outermost rather the largest. *Filaments* (see fig. 1.) 5, hair-like, scarcely so long as the corolla. *Anthers* roundish. *Germen* (fig. 3.) egg-shaped, somewhat compressed, furrowed, wrinkled. *Styles* (see fig. 3.) 2, thread-shaped, elongated, spreading, a little swelled at the base, proceeding from the dilated, depressed, wavy, permanent floral receptacle. *Stigmas* blunt. *Fruit* (see figs. 3 & 4.) broadly egg-shaped, slightly compressed, with 10 prominent, acute ribs, wavy in an unripe state, crowned with the dilated undulated *floral receptacle*, and the shortish, permanent, spreading styles. *Carpels* (*seeds* of Linn.) half egg-shaped, tumid, each with 5 prominent, waved or crenated *ridges*, becoming finally straight and even. *Interstices* with many striæ, without *vittæ*. *Seed* with a sharp narrow groove in front. *Universal involucrum* of few leaves; *partial one* of 3 leaves on one side.

The oblolete *calyx;* the inversely heart-shaped *petals* with an inflexed point; the broadly egg-shaped *fruit;* and the *carpels* with 5 prominent, waved or crenated *ridges;* with the interstices without *vittæ;* will distinguish this from other genera in the same class and order.

One species British.

CONI'UM MACULA'TUM. Spotted Hemlock. Common Hemlock. Homlock. Kex. Herb Bennet.

SPEC. CHAR. Stem smooth, polished, and spotted, much branched. Leaves of involucels spear-shaped, shorter than the umbellules.

Engl. Bot. t. 1191.—Curt. Fl. Lond. t. .—Jacq. Fl. Austr. v. ii. p. 36. t. 156.—Woodv. Med. Bot. v. i. p. 62. t. 22.—Steph. and Church. Med. Bot. v. i. t. 13.—Linn. Sp. Pl. p. 349.—Huds. Fl. Angl. (2nd ed.) p. 115.—Willd. Sp. Pl. v. i. pt. ii. p. 1395.—Sm. Fl. Brit. v. i. p. 302.; Engl. Fl. v. ii. p. 65.—With. (7th ed.) v. ii. p. 370.—Gray's Nat. Arr. v. ii. p. 513.—Lindl. Syn. p. 126.—Hook. Brit. Fl. p.

Fig. 1. A Flower, showing the Petals, Stamens, and Pistils.—Fig. 2. A separate Petal.—Fig. 3. An unripe Fruit.—Fig. 4. A transverse section of a ripe Fruit.

* *Koneion*, Gr. of THEOPHRASTUS, from *konos*, Gr. a *cone*, or a *top*, whose whirling motion resembles the giddiness produced on the human constitution by the poisonous juice of this plant. HOOKER.

† See folio 18, note †. ‡ See folio 235, *a*.

134.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 376.—Macr. Man. Brit. Bot. p. 106.—Lightf. Fl. Scot. v. i. p. 157.—Sibth. Fl. Oxon. p. 94.—Abbot's Fl. Bedf. p. 60.—Davies' Welsh Bot. p. 28.—Thornt. Fam. Herb. p. 317, with a figure.—Purt. Midl. Fl. v. i. p. 141.—Relh. Fl. Cant. (3rd ed.) p. 114.—Hook. Fl. Scot. p. 88.—Grev. Fl. Edin. p. 63.—Fl. Devon. pp. 49 & 166.—Johnst. Fl. Berw. v. i. p. 69.—Winch's Fl. of Northumb. and Durh. p. 19.—Walker's Fl. of Oxf. p. 80.—Burn. Outl. of Bot. v. ii. p. 782.—Bab. Fl. Bath. p. 21.—Dick. Fl. Abred. p. 31.—Mack. Cat. of Pl. of Irel. p. 28.; Fl. Hibern. p. 127.—*Cicuta*, Ray's Syn. p. 215.—Johnson's Gerarde, p. 1061,

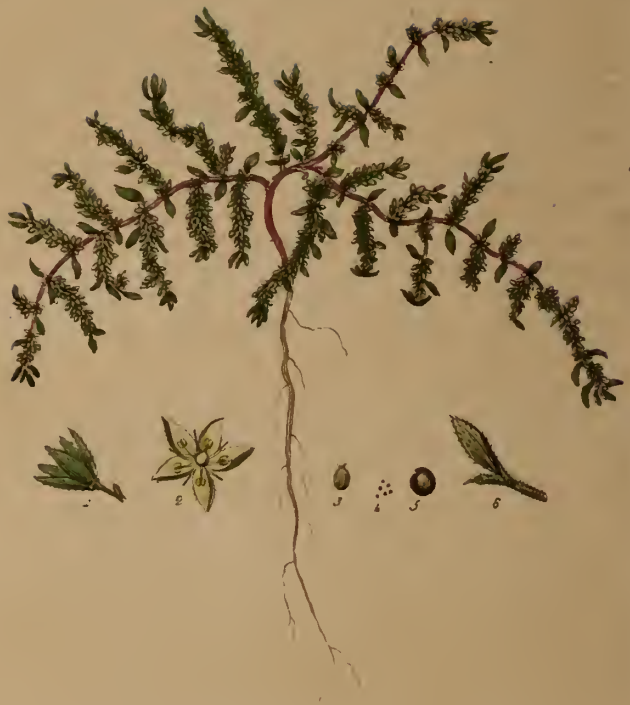
LOCALITIES.—In hedges, orchards, waste ground, and on rubbish and dunghills, especially near towns and villages; frequent.

Biennial.—Flowers in June and July.

Root fleshy, tap-shaped, whitish, frequently forked, of a disagreeable smell, and sweetish taste. *Stem* from 3 to 6 feet high, upright, round, hollow, smooth, glaucous, shining, much branched, and copiously spotted or streaked with reddish or brownish-purple. *Leaves* large, spreading, repeatedly compound, of a deep shining green; *leaflets* egg-shaped, closely and sharply pinnatified; *petioles* long, furrowed, dilated and sheathing at the base. *Umbels* terminal, very numerous, upright, compound, occasionally attended by one or two simple axillary ones; all many-rayed and smooth. *General involucrums* of several short egg-spear-shaped leaves, which are membranous at their edges; *partial ones (involucels)* of about 3 spear-shaped leaves, which are all directed to one side, and much shorter than the *umbellules*, a character which will distinguish this from *Æthusa cynapium*, in which the *umbellules* are shorter than the *involucels* (see t. 19). *Flowers* numerous, white, all prolific; the outermost slightly irregular. *Fruit* abundant, egg-shaped, slightly compressed, furrowed, the ridges crenated. *Carpels* with 5 crenated ridges, 3 on the back, and 2 on the margins.

Hemlock is a native throughout the whole of Europe; also of the eastern parts of Asia, North America, and Chili, where it has been introduced. It is distinguished from all other umbelliferous plants by its spotted stem, by the dark and shining green colour of the bottom leaves, and particularly by the fœtid smell of the whole herbage when bruised. It is considered one of the most noxious of vegetable poisons, yet, like many other poisons, it has, in small doses, proved a serviceable medicine; it is sedative and alterative; and Baron STOERCK, of Vienna, who first brought this plant into repute as a medicine, about 1760, extols it highly, both as an internal medicine and an external application, in the treatment of scirrhus and cancer: yet much care is required in its administration, as when taken in an over-dose, it produces giddiness, headache, dimness of sight, difficulty of speech, nausea, delirium, great anxiety, stupor, and convulsions, and if proper means to obviate the fatal effects are not promptly taken, death rapidly ensues. LINNÆUS, LAMARCK, and others, believed the poison which was administered to SOCRATES, the Athenian philosopher, to have been the juice of the *Conium maculatum;* others supposed that the fatal draught was a compound of several herbs; and HALLER considered it to have been derived from the *Cicuta virosa*, a poisonous aquatic, which in its operation is much more powerful and violent than the common Hemlock. That the modern *Conium* is identical with the *koneion* of the Greeks, is rendered probable from its being very common in Peloponnesus; "most abundant (says Dr. SIBTHORP) between Athens and Megara," and that the *Cicuta virosa*, *Œnanthe phellandrium*, and *Æthusa cynopium*, (t. 19.) are not found in any part of the country.

Although Hemlock will destroy life in men and kine, yet sheep, goats, and horses, will feed upon it without danger; and RAY informs us, that thrushes will eat the seeds, which are more potent than the leaves, even when corn is to be had.



Herniaria hirsuta. Hairy Rupture-wort. ♃

Pub.d by W. Baxter Botanic Garden Oxford 1808

Matthews Lith.r Str.

HERNIA'RIA *.

Linnean Class and Order. PENTA'NDRIA †, DIGY'NIA.

Natural Order. ILLECE'BREÆ ‡, *Dr. R. Brown.*—Lindl. Syn. p. 60.; Introd. to Nat. Syst. of Bot. p. 164.—PARONYCHIEÆ, Rich. by Macgilliv. p. 508.—Loud. Hort. Brit. p. 516.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 84.—Hook. Brit. Fl. (4th ed.) p. 407.—AMARANTHI, Juss. Gen. Pl. p. 87.—Sm. Gram. of Bot. p. 92.—QUERNEALES; sect. RUMICINÆ; type, SCLERANTHACEÆ; Burn. Out. of Bot. pp. 523, 587, & 544.—HOLERACEÆ, *Linn.*

GEN. CHAR. *Calyx* (see figs. 1 & 2.) inferior, of 1 sepal, in 5 deep, pointed, spreading, permanent segments, somewhat coloured inside. *Corolla* (see fig. 2.) of 5 thread-shaped, quite entire petals §, alternating with the sepals, sometimes wanting, or very small. *Filaments* (see fig. 2.) 5, or by abortion only 2 or 3, awl-shaped, shorter than the calyx, and opposite to its segments. *Anthers* of 2 roundish lobes. *Germen* superior, egg-shaped. *Styles* (see fig. 3.) 2, very short, distinct or cohering at the base. *Stigmas* pointed. *Capsule* (fig. 3.) invested by the calyx, membranous, of 1 cell, scarcely bursting, except in an irregular manner. *Seed* (fig. 5.) solitary, roundish, polished, pointed, filling the capsule.

Distinguished from other genera, in the same class and order, by the deeply 5-cleft, permanent *calyx;* the 5 thread-shaped *scales* or *petals;* the very short *styles;* and the indehiscent, 1-seeded *capsule*, covered by the calyx.

Three species British.

HERNIA'RIA HIRSU'TA. Hairy Rupture-wort.

SPEC. CHAR. Stem herbaceous, prostrate, clothed with spreading hairs. Leaves oval-oblong. Flowers sessile, clustered, axillary.

Engl. Bot. t. 1379.—Bauh. Hist. v. iii. p. 379, with a figure.—Dill. in Ray's Syn. p. 161.—Linn. Sp. Pl. p. 317.—Huds. Fl. Angl. (2nd ed.) p. 109.—Willd. Sp. Pl. v. i. pt. II. p. 1297.—Sm. Fl. Brit. v. i. p. 272.; Engl. Fl. v. ii. p. 9.—With. (2nd ed.) v. i. p. 250.—Gray's Nat. Arr. v. ii. p. 547.—Lindl. Syn. p. 61.—Hook. Br. Fl. p. 140.; 2nd edit. p. 126.—Maer. Man. Brit. Bot. p. 86.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 86.—Bab. in Linn. Soc. Trans. v. xvii. p. 451.—*Herniaria glabra*, var. *hirsuta*, With. (7th ed.) v. ii. p. 342.—*Herniaria vulgaris*, Spreng. Syst. Veg. v. i. p. 929, in part.

LOCALITIES.—In sandy and gravelly places; very rare.—*Middlesex;* At Colney-hatch, near Barnet: HUDSON, 1778. "MILN and GORDON, in their Indigenous Botany, v. i. p. 455, say, 'we found it in a field at Finchley and at Colney-hatch near Barnet, where HUDSON observed it.' It has not, I believe, been found since the publication of that work in 1793:" Mr. C. C. BABINGTON, in *Linn. Trans.* v. xvii. p. 452.—The *Cornwall* and *Derby* stations given for this plant, probably belong to a new British species (*Herniaria ciliata*) lately discovered by Mr. BABINGTON, and described by him in the Transactions of the Linnean Society. It differs from *H. hirsuta* in the hairs on the stem being short and decurved, not spreading.

Fig. 1. Calyx.—Fig. 2. An expanded Flower, showing the Calyx, the very narrow, strap-shaped Petals, the Stamens, Germen, and Pistils.—Fig. 3. A Capsule.—Fig. 4. Seeds, *natural size.*—Fig. 5. A Seed, *highly magnified.*—Fig. 6. Leaf and small portion of the stem, *slightly magnified.*—Figs. 1, 2, & 3, *highly magnified.*

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* From its supposed efficacy in curing *hernia*. WITHERING.

† See folio 48, note †. ‡ See folio 155, *a*.

§ Some Botanists consider these as abortive filaments.

Annual ?—Flowers in July and August.

Root tapering, somewhat woody. *Stems* numerous, prostrate, very much branched, leafy, round, somewhat woody, toughish, covered with straight spreading hairs. *Leaves* inversely egg-shaped, or elliptical, bluntish, on short stalks; clothed, on both sides, with prominent, bristly hairs. *Stipulas* lateral, between the leaves, in pairs, large, membranous, egg-shaped, pointed, fringed with bristly hairs. *Flowers* small, green, nearly sessile, about 6 to 10 together, in somewhat leafy clusters, either axillary, or opposite to a solitary leaf. *Bracteas* very white, ciliated, like the stipulas. *Calyx* covered with strong prominent hairs, and, as Mr. BABINGTON observes, appearing, when closed, like a little bur; segments egg-spear-shaped, bluntish, edged with white. *Corolla* of 5, very narrow, strap-shaped petals, resembling filaments without anthers, and described as such by some authors. *Stamens* about half the length of the calyx; *filaments* rather narrower than the petals, and alternate with them; *anthers* of 2 roundish lobes. *Capsule* elliptical, 1-seeded.

This plant is said to be a native throughout Europe, but it is extremely rare, in a wild state, in England. The small plant figured was from the Oxford Botanic Garden, where it comes up annually, as a weed, in some of the gravel walks without the walls of the garden. When it grows in a richer soil it often becomes much larger than it is represented in the accompanying plate; and a single plant now (Oct. 22, 1838,) growing in one of the flower borders in the same Garden, spreads over a space of ground above four feet in circumference, some of the branches measuring eleven inches long.

The late Mr. STACKHOUSE, Dr. WITHERING, and some other distinguished Botanists, considered *Herniaria hirsuta* as not specifically distinct from *H. glabra;* and Professor SPRENGEL has united them, and I think *H. ciliata* also, under the name of *Herniaria vulgaris.*

The distinguishing characters of the three British species (if they really are species, and we have the authority of some of the most eminent and experienced Botanists of the present day for considering them so) seem to rest principally on the different kind and degree of pubescence with which they are clothed. In *Herniaria hirsuta* the stems, leaves, and calyx, are thickly covered with strong, spreading hairs; in *H. ciliata*, according to Mr. BABINGTON's observations, the stems are clothed with very minute decurved hairs, the leaves egg-shaped and fringed; in *H. glabra* the pubescence of the stems is the same as in *H. ciliata*, but the leaves are oval-oblong and smooth, not fringed. All the three species are of very humble growth, and possess little either in appearance or properties to attract attention. They are slightly astringent, and were formerly thought to be useful in the cure of Ruptures, but they are now disregarded as a medicine.

Cows, sheep, and horses are said to eat these plants; goats and swine to refuse them.

Aceras anthropophora Green Man-orchis 4.

Published by W. Prater, Botanic Garden, Oxford 1838.

J. Fussell Pinx.

W. Willis Sc.

A'CERAS*.

Linnean Class and Order. GYNA'NDRIA†, MONA'NDRIA.

Natural Order. ORCHI'DEÆ, *Linn.*—Juss. Gen. Pl. p. 64.—Sm. Gram. of Bot, p. 81.; Engl. Fl. v. iv. p. 3.—Lindl. Syn. p. 256; Introd. to Nat. Syst. of Bot. p. 262.—Rich. by Macgilliv. p. 412.—Loud. Hort. Brit. p. 536.—Mack. Fl. Hibern. p. 274.—Macr. Man. Brit. Bot. p. 224.—Hook. Brit. Fl. (4th edit.) p. 425.—PALMARES; order, MUSALES; sect. ORCHIDINÆ; type, ORCHIDACEÆ; Burn. Outl. of Bot. v. i. pp. 391, 437, 458, & 461.

GEN. CHAR. *Perianthium*‡, *(calyx and corolla)* (fig. 1.) superior. *Sepals* 3, egg-shaped, concave, equal, closely converging, ribbed, permanent. *Petals* 2, strap-spear-shaped, small, about as long as the sepals, which conceal them. *Lip (nectary)* (see fig. 1.) without a spur, hanging down, much longer than the sepals, strap-shaped, with 4 strap-shaped, entire lobes, the two uppermost longest, the disk strap-shaped, flat, and even. *Anthers* of 2 oblong membranous cells, close together, above the stigma. *Pollen-masses* (see fig. 3.) with 2 glands, contained in one common pouch. *Germen* (see fig. 2.) oblong, furrowed, nearly straight. *Style* (see fig. 3.) very short. *Stigma* a moist depression in front. *Capsule* (fig. 4.) inversely egg-shaped, slightly curved, furrowed. *Seeds* very numerous, tunicated.

The herbaceous, converging, helmet-shaped *perianthium;* the dependant, 4-lobed *lip*, without a spur; and the *pollen-masses* with 2 glands enclosed in one common pouch; will distinguish this from other genera in the same class and order.

One species British.

A'CERAS ANTHROPO'PHORA. Man-bearing Aceras. Green Man-orchis.

SPEC. CHAR. Lip longer than the germen.

Brown, in Ait. Hort. Kew. (2nd ed.) vol. v. p. 191.—Sm. Engl. Fl. v. iv. p. 25.—Lindl. Syn. p. 262.—Hook. Brit. Fl. p. 374.—Gray's Nat. Arr. v. ii. p. 200.—Macr. Man. Br. Bot. p. 227.—Rev. G. E. Smith's Pl. of S. Kent, p. 51.—Burn. Outl. of Bot. v. i. p. 15. fig. *g. h. i. i. k.*—*O'phrys anthropóphora*, Engl. Bot. t. 29.—Curt. Fl. Lond. t. .—Curt. Brit. Entom. v. vi. t. 280.—Linn. Sp. Pl. p. 1343.—Huds. Fl. Angl. (2nd ed.) p. 390.—Sm. Fl. Brit. v. iii. p. 937.—Willd. Sp. Pl. v. iv. pt. i. p. 63.—With. (7th ed.) v. ii. p. 41.—Relh. Fl. Cant. (3rd ed.) p. 364.—*Orchis anthropóphora oreades*, Ray's Syn. p. 379.—Jacob's Pl. Feversh. p. 74.—Blackst. Sp. Bot. p. 63.—*Orchis flore nudi hominis effigiem repræsentans, fœmina*, Bauh. Pin. p. 82. n. 7.—Rudb. Camp. Elys. v. ii. p. 193. n. 7. f. 6.—Vaill. Par. p. 147. t. 31. f. 19, 20.

LOCALITIES.—In chalk-pits, and in dry chalky or clayey pastures; very rare.—*Berks;* Near the highway from Wallingford to Reading, on the Berkshire side of the river: MERRETT, 1666.—*Cambridgesh.* In a close near Linton: Rev. R. RELHAN. Furze-hills, Hildersham: W. H. COLEMAN, in N. B. G.—*Essex;* On the borders of some corn-fields at Belchamp St. Paul, towards Ovington:

Fig. 1. Front view of a Flower.—Fig. 2. Germen, Column, and Lip.—Fig. 3. Front view of the upper part of the Column, showing the stigma, and the pollen-masses, *magnified*.—Fig. 4. The Capsule.

* *A.* privative, *without;* and *keras*, Gr. *a horn;* in allusion to the absence of a spur.

† See folio 8, note †. ‡ See folio 33, note ‡.

Ray's Syn.—Kent; At Greenhithe and Northfleet, with *Orchis fusca*: J. Sherard, Esq. in *Ray's Syn.* On chalky banks near Faversham, common: E. Jacob, Esq. 1777. In the same place, 1838: Mr. W. Pamplin, jun., and Mr. M. H. Cowell. Pastures at Dartford: Mr. J. Woods, jun. Bank westward of Crabbe: L. W. Dillwyn, Esq. In Bocton church-yard: Jacob. On sand hills below Southend, near the mouth of the Thames, plentiful, with *Ophrys aranifera*, 1838: His Grace the Archbishop of Dublin. Chalk Downs around Stowting: Rev. R. Price. Near Sittingbourne: *Sm. Pl. of S. Kent.* White-hill, Selling: Mr. M. H. Cowell*. On both sides the road on the chalk-banks between Dartford and Greenstreet Green: Mr. Watson, in *Blackst. Sp. Bot.* On Gravesend chalk-cliffs, plentifully; Blackstone, in *Sp. Bot.* Finsbury: Hooker, in N. B. G.—Near Cuxton and Cobham; on the hills overlooking the valley of the Medway on each side the river, plentifully: Mr. W. Pamplin, jun., who informs me, that he finds it a pretty general plant, upon chalky banks and slopes skirting woods, throughout the county.—*Middlesex;* About Harefield: *Fl. Metr.—Norfolk;* At Ashwelthorpe, near Norwich: Mr. Crow. At Forncet: Mr. Joseph Fox. At Bracon Ash, and Tacolnstone: Gough's *Camden.* In a dry pit at the end of Mr. Wright's Garden at Mendham: Rev. H. Tilney.—*Suffolk;* Found by Mr. Dale in an old gravel-pit at Dalington near Sudbury: Ray. Little Saxham, and Hawsted: Sir T. G. Cullum. Blackenham, near Ipswich: Rev. W. Kirby.—In and about a chalk-pit at Ickworth, near Bury, among grass, copinously: Sir J. E. Smith. One specimen found near Bungay: Mr. D. Stock, in N. B. G.—*Surrey;* Near Leatherhead: Mr. W. Curtis. Chalk-pit near Cheam: Mr. T. F. Forster, jun. In Langley field between Croomhurst and Selsden; and in a lane leading from Smitham Bottom to Saunderstead. Box-hill; field behind Juniper Hill: N. J. Winch, Esq. in N. B. G.—Dorking; between Mickleham and Box-hill; and in old stone-pits east of Guildford, plentifully: Mr. W. Pamplin, jun.

Perennial.—Flowers in June.

Root of 2 egg-shaped, woolly *knobs*, and several woolly radicles. *Stem* solitary, upright, from 10 to 15 inches high, firm, smooth, cylindrical at the base, somewhat angular upwards. *Root-leaves* 4 or 5, sheathing the stem at the base, smooth, spreading, spear-shaped, varying in breadth. *Stem-leaves* 1 or 2, small, upright, closely embracing the stem. *Spike* long, cylindrical, of many, rather crowded, *flowers*. *Bracteas* (see fig. 4.) membranous, spear-shaped, finely tapering at the summit, about half as long as the germen, which is sessile, oblong, green, and somewhat twisted. *Sepals* egg-shaped, converging so as to form a hood; greenish, with purple lines, and edges. *Petals* strap-shaped, concealed within the sepals. *Lip* or *Nectary* (fig. 2.) longer than the germen, hanging down, yellowish, occasionally tipped with brown, or dark red, or sometimes wholly of a reddish-brown; divided into 3, strap-shaped, segments, the two side ones somewhat diverging, the middle one about twice as long, and cloven half way down into two pointed, rather spreading, lobes.

A curious and interesting plant, native of the more southern parts of Europe, and England. The *lip* is so divided as to bear some similitude to the effigy of a man, whence its name, *Man-orchis;* old authors, in their figures of it, have improved on this resemblance, at the expence of truth. See Rudbeck, Parkinson, and others.

The flowers of this plant have generally been described as being scentless, but the Rev. G. E. Smith, who has paid much attention to the British Orchideæ, observes, in his interesting *Catalogue of the rare or remarkable Plants of South Kent*, that they emit a fragrance more aromatic, but less sweet, than those of the honey-suckle; this scent is strongest in the evening, and is then not pleasant.

I am indebted to Gillow Simpson, Esq. for the specimen from which the drawing, for the accompanying plate, was made. My kind friend, Mr. W. Pamplin, jun. has also furnished me with several fine specimens, collected in the vicinity of Faversham; and informs me, that he had received, amongst a large collection of dried plants, "*Aceras anthropophora*," collected by M. Nic. Bove, in North Africa, not far from Algiers, in 1837.

* Mr. Cowell has nearly ready for publication, "A Floral Guide for Faversham and the contiguous parts of Kent."

Chrysanthemum Segetum. Corn Marigold. ☉

P. Holmes Del. and Sc. Pub.d by W. Baxter, Botanic Garden, Oxford. 1835

CHRYSA'NTHEMUM*.

Linnean Class and Order. SYNGENE'SIA†, POLYGA'MIA, SUPE'RFLUA‡.

Natural Order. COMPO'SITÆ§; tribe, CORYMBI'FERÆ||, *Juss.* —Lindl. Syn. pp. 140 & 142.; Introd. to Nat. Syst. of Bot. pp. 197 & 199.—Mack. Fl. Hibern. p. 142.—Hook. Brit. Fl. (4th ed.) p. 410.—COMPO'SITÆ; subord. CARDUA'CEÆ, Loud. Hort. Brit. pp. 520 & 521.—SYNANTHE'REÆ; tribe, CORYMBI'FERÆ, Rich. by Macgill. pp. 454 & 455.—CORYMBIFERÆ, sect. 2. Juss. Gen. Pl. pp. 177 & 180.—Sm. Gram. of Bot. pp. 121 & 123; Engl. Fl. v. iii. p. 334.—SYRINGALES; suborder, ASTEROSÆ; sect. ASTERINÆ; subsect. ASTERIANÆ; type, ASTERACEÆ; Burn. Outl. of Bot. pp. 900, 901, 920, 924, & 926.—COMPO'SITÆ, *Linn.*

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) hemispherical, closely imbricated, with numerous, roundish, convex scales, membranous and dilated at their margin, especially the innermost (see fig. 4.), which terminate in more or less of a dry, filmy, often jagged appendage. *Corolla* (see fig. 2.) compound, radiant; *florets* of the disk very numerous, perfect, tubular, level-topped, with 5 equal, spreading segments (see fig. 3.); *florets* of the ray more than 12, strap-shaped, spreading, elliptic-oblong, with 3 terminal teeth (see fig. 4). *Filaments* 5, in tubular florets only, hair-like, short. *Anthers* (see fig. 5.) forming a notched tube. *Germen* (see figs. 3 to 6.) in all the florets inversely egg-shaped. *Style* (see figs. 5 & 6.) a little prominent. *Stigmas* spreading, oblong, bluntish, generally uniform. *Seed-vessel* none, except the dry, spreading involucrum, a little inflexed at the margin (see fig. 1, *a*). *Seed* (fig. 7.) in all the florets oblong, or inversely egg-shaped, striated, blunt, without pappus or border. *Receptacle* (see fig. 1, *b*.) naked, rather convex.

The hemispherical, imbricated *involucrum;* the *scales* with a dilated membranous border; the naked *receptacle;* and the *seed* without any *pappus* or *border;* will distinguish this from other genera, with radiant *flowers*, in the same class and order.

Two species British.

CHRYSA'NTHEMUM SE'GETUM. Corn Chrysanthemum. Corn Marigold. Yellow Ox-eye. Goldins. Buddle. Yellow Bottle. Yellow Gowans. Gowlans. Quills. Gools. Gules.

SPEC. CHAR. Leaves clasping the stem, glaucous; jagged upwards; toothed at the base. All the florets yellow.

Engl. Bot. t. 540.—Curt. Fl. Lond. t. .—Mart. Fl. Rust. t. 110.—Curt. Brit. Ent. v. vii. t. 335.—Ray's Syn. p. 182.—Johns. Gerd. p. 743.—Linn. Sp. Pl. p. 1254.—Huds. Fl. Angl. (2nd ed.) p. 371.—Willd. Sp. Pl. v. iii. pt. III. p. 2148.—Sm. Fl. Brit. v. ii. p. 899.; Engl. Fl. v. iii. p. 449.—With. (7th ed.) v. iii. p. 950.—

Fig. 1. Involucrum; *a*. Scales; *b*. Receptacle.—Fig. 2. Corolla.—Fig. 3. A Floret of the Disk.—Fig. 4. A Floret of the Ray, with one of the scales of the involucrum.—Fig. 5. Stamens and Pistil.—Fig. 6. Germen, Style, and Stigma.—Fig. 7. Seed.

* From *chrusos*, Gr. *gold;* and *anthos*, Gr. a *flower;* from the colour of the blossoms of some of the species.

† See f. 91, n. †. ‡ See f. 36, n. ‡. § See f. 27, *a*. || See f. 36, *a*.

Gray's Nat. Arr. v. ii. p. 452.—Lindl. Syn. p. 148.—Hook. Brit. Fl. p. 365.—Mack. Man. Brit. Bot. p. 130.—Lightf. Fl. Scot. v. i. p. 489.—Sibth. Fl. Oxon. p. 257.—Abbot's Fl. Bedf. p. 185.—Davies' Welsh Bot. p. 80.—Purt. Midl. Fl. v. ii. p. 403.—Relh. Fl. Cant. (3rd ed.) p. 349.—Hook. Fl. Scot. p. 246.—Grev. Fl. Edin. p. 180.—Fl. Devon. pp. 140 & 160.—Johnst. Fl. of Berw. v. i. p. 187.—Winch's Fl. of Northumb. and Durh. p. 55.—Walker's Fl. of Oxf. p. 245.—Bab. Fl. Bath. p. 26.—Dick. Fl. Abred. p. 52.—Mack. Catal. Pl. of Irel. p. 74.; Fl. Hib. p. 149.

LOCALITIES.—In corn-fields, turnip-fields, &c.; frequent.

Annual.—Flowers from June to October.

Root tapering, rather small. *Stem* from 1 to 2 feet high, upright, alternately branched, leafy, round, or slightly angular, smooth, shining, of a glaucous green colour. *Branches* rather short. *Leaves* alternate, sessile, half embracing the stem, oblong, rather acute, variously toothed or cut, smooth, somewhat succulent, slightly veiny, glaucous on both sides. *Flowers* numerous, large, of a uniform brilliant yellow colour, one at the extremity of each branch, on a naked, hollow peduncle, swelling upwards. *Scales* of the *involucrum* green, with a broad membranous border. *Florets* of the ray about 16 or 18, oblong, truncate, marked with two lines, and having generally three irregular teeth at the end, *Seeds* compressed, grooved, a little bent, smooth, without any crown or membranous border.

This is a handsome plant, and occurs, more or less, in most parts of England, as well as in many other parts of Europe. It is often a very troublesome weed in corn-fields and turnip-fields, on a sandy soil; and sometimes abounds to such a degree, as almost to annihilate the crop; hence laws have been enacted, and fines imposed, in Denmark, Saxony, and some parts of Scotland, for the purpose of obliging the farmer to keep his land clear of it. It was imported into Sweden along with corn from Jutland, about the end of the sixteenth century. LINNÆUS says it may be destroyed by manuring the ground in Autumn, suffering it to lie fallow for one Summer, and harrowing the land five days after sowing the corn; but it is most effectually eradicated by hand before it comes to seed, and this method of extirpating it is attended with the satisfaction, that while it promotes the farmer's interest, it gives employment to a great number of the industrious poor. GEOFFROY reports, that this plant, gathered before it blossoms, and boiled in water, imparts an acrid taste, penetrating and subtile like pepper; and that this decoction is an excellent vulnerary and diuretic. Horses, sheep, and goats eat the plant; cows and swine refuse it. A large quantity, which grew on some arable land, was cut when in flower, dried, and eaten by horses as a substitute for hay. The young leaves may be eaten in salads. It is used by the Germans for dying yellow.—See *Curt. Fl. Lond.;* and *With. Bot. Arr.*

LINNÆUS observes, that the flowers follow the sun in a very remarkable manner, and that they give a brilliancy to the fields in tillage, which is pleasing to the eye of the passing traveller.

A variety of this species, with more jagged leaves and smaller flowers, was noticed in corn-fields near Glastonbury, by PLUKENET; but no other person seems to have met with it. See *Ray's Syn.* and *Smith's Engl. Fl.*

I have not heard of its ever having been found with a double flower, although *Chrysanthemum coronarium*, an exotic species, very nearly allied to it, is common in that state, in gardens.

Mathews Del.

W Wilde Sc

Salicornia herbacea. Herbaceous Glasswort ⊙

Published by W Baxter Botanic Garden Oxford 1836.

SALICO'RNIA*.

Linnean Class and Order. MONA'NDRIA†, MONOGY'NIA.

Natural Order. CHENOPO'DEÆ‡, *Vent.*—Lindl. Syn. p. 213; Introd. to Nat. Syst. of Bot. p. 167.—Loud. Hort. Brit. p. 531.—Mack. Fl. Hiber. p. 226.—Hook. Brit. Fl. (4th ed.) p. 416.—ATRIPLICES, Juss. Gen. Pl. p. 83.—Sm. Gram. of Bot. p. 91.—Rich. by Macgilliv. p. 425.—QUERNEALES; sect. RUMICINÆ: type, BETACEÆ; subty. CHENOPODIDÆ; Burn. Outl. of Bot. v. ii. p. 523, 587, & 591.—HOLERACEÆ, *Linn.*

GEN. CHAR. *Calyx* inferior, of 1 sepal, undivided, succulent, tumid, unequal, permanent (see fig. 1.). *Corolla* none. *Filaments* (fig. 2.) 1 or 2, prominent. *Anthers* 2-lobed, upright. *Germen* (fig. 3.) egg-shaped, beneath the stamens. *Style* short and thick. *Stigma* in 2 or more segments (see fig. 3.). *Seed* ovate, imbedded in the calyx, with a membranous tunic.

The tumid, entire *calyx;* the short *style*, with a 2- or 3-cleft *stigma;* and the single *seed*, invested by the calyx; will distinguish this from other genera in the same class and order.

Three species British?

SALICO'RNIA HERBA'CEA. Herbaceous Glasswort. Jointed Glasswort. Saltwort. Sea-grass. Crab-grass. Frog-grass. Marsh Samphire. Sea-grape.

SPEC. CHAR. Stem herbaceous, upright; joints compressed, notched; interstices inversely conical; spikes tapering upward. Stamen one.

Linn. Sp. Pl. p. 5.—Willd. Sp. Pl. v. i. pt. 1. p. 23.—Sm. Fl. Brit. v. i. p. 2. var. *α.*; Engl. Fl. v. i. p. 2.—With. (7th ed.) v. ii. p. 5.—Gray's Nat. Arr. v. ii. p. 287.—Lind. Syn. p. 214.—Hook. Brit. Fl, p. 1. var. *α*,—Macr, Man. Brit. Bot. p. 195.—Lightf. Fl. Scot. v. i, p, 69.—Davies' Welsh Bot. p. 1.—Relh. Fl. Cant. (3rd ed.) p. 2.—Hook. Fl. Scot. p. 1. excl. *S. procumbens.*—Grev. Fl. Edin. p. 1. excl. *S. procumbens*—Rev. G. E. Smith's Pl. of S. Kent, p. 1.—Fl. Devon. pp. 1 & 140. excl. var. *β.*—Johnst. Fl. of Berw. v. i. p. 2.—Winch's Fl. of Northumb. and Durh. p. 1.—Curt. Brit. Ent. v. iii. t. 119.—Loud. Encyclop. of Gard. (new edit.) p. 880. paragr. 4688.—Dick. Fl. Abred. p. 19.—Mack. Catal. of Pl. of Irel. p. 7.; Fl. Hib. p. 227.—*Salicornia Europæa*, var. *α.* Huds. Fl. Angl. (2nd ed.) p. 1.—*Salicornia annua*, Engl. Bot. t. 415.—*Salicornia*, Ray's Syn. p. 136.—*Salicornia sive Kali geniculatum*, Johnson's Gerarde, p. 535.

LOCALITIES.—In salt-marshes, and on muddy sea-shores overflowed by the tide; plentiful.—*Cambridgesh.* Sandy ground below Wisbeach: Rev. R. RELHAN.—*Cheshire;* Muddy shores of the Mersey, &c.: Mr. WATSON, in N. B. G.—*Devon;* Salt-marshes, common: *Fl. Devon.*—*Dorset;* On the waste ground at the back of the promonade, Weymouth: Rev. A. BLOXAM—*Durham;* On the muddy sea-shores and salt-marshes of Tyne, Wear, Tees, &c.: also at Holy Island: N. J. WINCH, Esq.—*Essex;* In a field by the river at Purfleet: Dr. JAMES MITCHELL, in *Fl. Metr.*—*Kent;* Muddy sea-shores and sands: Rev. G. E. SMITH, and Mr. W. PAMPLIN, jun.—*Norfolk;* Salt-marshes, Titchwell, and Burnham Deepdale: Miss BELL, in N. B. G. River-side Yarmouth: J. PAGET, ibid. Mr. WATSON thinks it probable that these two localities may

Fig. 1. A joint of the Spike, with 3 flowers.—Fig. 2. A Stamen.—Fig. 3. Fruit.—*All magnified.*

* From *sal, salt;* and *cornu*, a *horn;* from the horn-like branches and saline nature of the plants. HOOKER.

† See folio 19, note †. ‡ See folio 231, *a.*

belong to *S. radicans*; see *New Bot. Guide*, vol. ii. p. 597.—In *Sussex*: Rev. G. E. Smith, in N. B. G.—*Yorksh.* Tees mouth: L. E. O. in *Mag. Nat. Hist.* v. iii. p. 168.—WALES. *Anglesey*; Dulas Bay, &c: Rev. H. Davies.—In *Denbighshire*: Mr. Bowman, in N. B. G.—*Merionethsh.* Barmouth: *Mag. Nat. Hist.*—SCOTLAND. *Aberdeensh.* On the coast, a little to the south of the river Ythan: Dr. Murray, in *North. Fl.*—*Berwicksh.* Between Goswick Links and Fenham; Holy Island: Dr. Johnston.—*Dumbartonsh.* On the shore at Helensburgh: Hopkirk.—*Elginsh.* Shore below Brodie; and Lossie Mouth: Rev. G. Gordon, in N. B. G.—*Fifesh.* Inverkeithing Bay: Mr. Neill. —*Forfarsh.* Covering the muddy beach, to a great extent, at Montrose; and plentiful about four miles from the town at the head of the basin: Dr. Murray, in *North. Fl.*—*Haddingtonsh.* Aberlady Bay: Dr. Parsons. Morrison's Haven: Dr. Graham.—*Kincardinesh.* At Brotherton: *North. Fl.*—*Nairnsh.* On the Moray coast, east of Nairn Harbour: *North. Fl.*—*Rossh.* Munlocky Bay. *North. Fl.*—IRELAND. Salt-marshes, plentiful: Mr. Mackay. Near Coolum, Waterford: Countess of Carrick, 1837. Plentiful at Portmarnock, and near Ringsend: Mr. Mackay.

Annual.—Flowers in August and September.

Root fibrous, small. *Stem* from 6 inches to a foot high, upright, green, leafless, much branched, jointed; joints somewhat compressed, a little thickened upwards, very succulent, shrinking much when dry, in which state the upper extremity of each joint forms a 2-lobed membranous socket or short sheath, which receives the base of the joint above it. *Branches* opposite, tapering at the base, and jointed, like the stem. *Spikes* of *flowers* dense, lateral and terminal, cylindrical, somewhat tapering towards the summit, of numerous short joints, each joint crowned with about three sessile *flowers* at each side. *Stamen* one. *Stigmas* two or three.

The whole plant has a saltish taste, and is greedily devoured by cattle. The young and tender shoots, steeped in salted vinegar, make a pickle very little inferior to Samphire (*Crithmum maritimum*, t. 267), for which it is frequently sold in London, and other places. From the ashes of this plant, fossil alkali is obtained, which is in great request for making soap and glass; hence its name of *Glasswort*. It is chiefly made on the coast of the Mediterranean, where it is called *Soda*. Many other plants are used for this purpose, especially some species of *Salsola*. See *Salsola Kali*, t. 255, of this work.

Botanists of the highest authority differ in opinion respecting the specific distinctions of the British *Salicorniæ*. Sir J. E. Smith, in his *English Flora*, makes four species, viz. *S. herbácea*, *procúmbens*, *radicans*, and *fruticósa*, observing, that possibly the two latter may be only varieties of the same species. Dr. Lindley has followed the *English Flora*, in the first edition of his *Synopsis*; but in the second edition, this distinguished Botanist has reduced them to three species, uniting *fruticósa* with *radicans*. Sir W. J. Hooker, in his excellent *British Flora*, has reduced them to only two species, comprising *S. annua* of *English Botany*, t. 415, and *procúmbens* of *E. Bot.* t. 2475, in *herbácea*; and *S. fruticósa* of *E. Bot.* t. 2467, in *radicans* of *E. Bot.* t. 1691.

The specimen figured in the accompanying plate was from the vicinity of Coolum, near Waterford, in Ireland; and was kindly communicated to me by the Right Honourable the Countess of Carrick, August, 1837.

Blysmus Compressus. Broad-leaved Blysmus. 4

C. Mathews Del. & Sc. Pub.d by W. Baxter Botanic Garden Oxford 1838

BLY'SMUS *.

Linnean Class and Order. TRIA'NDRIA †, MONOGY'NIA.

Natural Order. CYPERA'CEÆ, *Juss.* — Lindl. Syn. p. 278.; Introd. to Nat. Syst. of Bot. p. 304.---Rich. by Macgilliv. p. 392.---Loud. Hort. Brit, p. 541.---Mack. Fl. Hibern. p. 318.---CYPEROIDEÆ, Juss. Gen. Pl. p. 26.---Sm. Gr. of Bot. p. 68.---CYPERALES; sect. CYPERINÆ; type, SCIRPACEÆ; Burn. Outl. of Bot. v. i. pp. 354 & 357.---CALAMARIÆ, *Linn.*

GEN. CHAR. *Florets* (fig. 3.) all perfect. *Spikelets* (fig. 1.) bracteated, arranged on a zigzag rachis into a 2-ranked, compressed *spike*. *Glumes* (see fig. 3.) of one valve, imbricated on all sides, the outermost gradually the largest, empty (see fig. 2.). *Hypogynous Bristles* several or none (see fig. 4.). *Fruit* (fig. 6.) compressed, oval, gradually tapering into the persistant *style*.

The 2-ranked, compressed *spike;* the *glumes* of one valve, imbricated on all sides, the outermost valve larger than the rest, and without either stamens or pistil; and the oval, compressed *fruit*, crowned with the permanent *style;* will distinguish this from other genera, without a *corolla*, in the same class and order.

Two species British.

BLY'SMUS COMPRE'SSUS. Compressed Blysmus. Broad-leaved Blysmus.

SPEC. CHAR. Leaves strap-shaped, channelled. Lowermost bractea awl-shaped, somewhat leafy. Hypogynous bristles six.

Lindl. Syn. p. 280.—Hook. Brit. Fl. p. 22.—Macr. Man. Brit. Bot. p. 246.—Bab. Fl. Bath. p. 53.—*Schœnus compressus*, Engl. Bot. t. 791.—Linn. Sp. Pl. p. 65.—Huds. Fl. Angl. (2nd ed.) p. 15.—Leers' Fl. Herborn. (2nd edit.) p. 9. t. 1. f. 1.— Sm. Fl. Brit. v. i. p. 44.—With. (7th edit.) v. ii. p. 108.—Lightf. Fl. Scot. v. i. p. 87.—Relh. Fl. Cant. (3rd ed.) p. 20.—Hook Fl. Scot. p. 16.—Grev. Fl. Edin. p. 9.—*Scirpus compressus*, Pers. Syn. v. i. p. 66.—*Scirpus caricinus*, Schred. Germ. v. i p. 132.—Sm. Engl. Fl. v. i. p. 58.—Johnst. Fl. Berw. v. i. p. 15.—Winch's Fl. of Northumb. and Durh. p. 4.—Walker's Fl. of Oxf. p. 13.—*Scirpus caricis*, Retz. Prod. p. 64.—Willd. Sp. Pl. v. i. pt. 1. p. 292.—*Chœtospora compressa*, Gray's Nat. Arr. v. ii. p. 71.—*Carex uliginosa*, Linn. Fl. Suec. (2nd ed.) p. 325.; Sp. Pl. p. 1381.—*Gramen cyperoides spica simplici compressa disticha*, Ray's Syn. p. 425. — Scheuchz. Agrost. p. 490. t. 11. f. 6.

LOCALITIES.—Turfy moors, boggy pastures, river-sides, and near the sea; not very uncommon.—*Oxfordshire;* In a bog under Bullington Green, plentiful: W. B.—*Berks;* In a boggy place between South Hinksey and the Abingdon road, about a mile and a half from Oxford: W. B. Plentiful about Newbury: Mr. BICHENO.—*Cambridgesh.* Coldham Common; between Little Shelford and Whittlesford; near Battisham Load: Rev. R. RELHAN.—*Cornwall;* Goonhilly Downs: N. B. G.—*Cumberland;* Hell-beck and Tindale Fell, Brampton: HUTCHINSON.—*Derbysh.* Fields by the Buxton road, at the end of Monsal Dale, towards Bakewell: Mr. WATSON, in N. B. G.—*Durham;* Near Darlington: RONSON. Bogs between Ryehope and the sea; and on the banks of the Tees near Middleton: N. J. WINCH. Esq. Teesdale Forest: Rev. J. HARRI-

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Fig. 1. A Spikelet.—Fig. 2. Empty Glume.—Fig. 3. A single Floret, or Fertile Glume.—Fig. 4. Germen, Style, and Stigmas, with the bristles at the base of the germen.—Fig. 5. The same without the bristles.—Fig. 6. A Seed.—Figs. 2 to 5, *slightly magnified.*

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* From *blusmus*, Gr. *source or spring*, near which the species usually grow. Sir W. J. HOOKER. † See folio 56, note †.

MAN. Near Gallow-hill: THOMPSON.—*Kent;* About Chiselhurst: RAY. In boggy ground at Cockshill, and about Ham Ponds: L. W. DILLWYN, Esq.; *South Kent:* Rev. G. E. SMITH, in N. B. G.—*Lancash.* Bootle North Shore, near Liverpool: Dr. BOSTOCK.—*Norfolk;* At Sustead, near Cromer: Sir J. E. SMITH. St. Faith's Newton Bogs: Mr. PITCHFORD. Flixtead, and Lakenham Marshes: N. B. G. Not uncommon in the county: Mr. WOODWARD.—*Northumberland;* On the banks of Tyne at Chalderford and Low Park End, and on the Links at Holy Island and Bamborough: N. J. WINCH, Esq.—*Notts;* Southwell, Bulwell Bogs, Sutton-in-Ashfield, Kirby Hardwick, and Fountain Dale Bogs: N. B. G.—*Somerset;* Claverton Wood: Dr. DAVIS.—*Staffordsh.* In a field opposite Yoxall Lodge: C. C. BABINGTON, in N. B. G.—*Suffolk;* Frequent in the county: Mr. WOODWARD. Flixton Marshes: Mr. WIGG. Middleton: Mr. DAVY. Bungay: Mr. D. STOCK.—*Surrey;* In the Rill near Dulwich Wells: Mr. DOODY, in *Ray's Synop.* On Bagshot Heath: N. J. WINCH, Esq.—In *Sussex*: Rev. G. E. SMITH, in N. B. G.—*Westmoreland;* About Orton: RAY. Near Brough, between Hill-beck and Morton, on the side of the mountain: Rev. J. HARRIMAN.—*Worcestersh.* Malvern: W. BORRER, Esq.—*Yorksh.* Upon Welburn Moor; common on Farnham Mires, and elsewhere near Knaresborough; Bog at Wildon near Coxwold; and boggy places and pastures near Ripon, frequent: B. G. St. Trinians near Richmond; ditches near Giggleswick Torn, and rivulet opposite Gordale House, near Rievaulx Abbey; and about the Tees near Egglestone Bridge: N. B. G.—WALES. *Flintshire;* Marsh about a mile W. of Prestatyn, on the coast: Mr. GRIFFITH.—SCOTLAND. *Argyleshire;* By the side of Lochs in Islay: LIGHTFOOT.—*Dumbartonsh.* Dumbarton Castle, by the river side: Mr. YALDEN.—*Edinburghsh.* Near Berthwick Castle: Mr. MAUGHAN.

Perennial.—Flowers in July.

Root fibrous, rather creeping. *Culm (stem)* from 4 to 12 inches high, simple, roundish, a little flattened on one side, smooth, striated, covered by the sheathing bases of the leaves for about one-third upwards, the rest naked, the upper part near the spike triangular. *Leaves* grass-green, shorter than the culm, alternate, sheathing, channelled, the upper ones frequently flat, smooth, and unkeeled on their lower part, becoming keeled and triangular upwards; the keel and edges rough. *Spike* terminating, oblong, 2-sided, almost upright, of a bright chesnut brown. *Spikelets* from 5 to 12, 2-ranked; all the *glumes* in each spikelet perfect, except the lower one, which is empty. *Bractea* leaf-like, with a triangular sharpish top, roughish along the edges, mostly, but not always, longer than the spike. *Stigmas* 2, downy. *Seed* lenticular, grey, with 6 longish, rough bristles beneath, and beaked with an unusually long portion of the *style*, nearly the whole of it, though the *stigmas* are deciduous.

A pretty plant, native of other parts of Europe as well as of Britain, though it appears not to have been found in Ireland, as it is not noticed in Mr. MACKAY'S *Flora Hibernica.*

The specimen figured was from Bullington Green, near Oxford. The spikes, after flowering, become somewhat wider than those represented in the plate.

Goodyera repens Creeping Goodyera. 2

Mathews lith. W. Baxter Botanic Garden, Oxford. 1830.

GOODYE'RA*.

Linnean Class and Order. GYNA'NDRIA†, MONA'NDRIA.

Natural Order. ORCHI'DEÆ, *Linn.*—Juss. Gen. Pl. p. 64.—Sm. Gram. of Bot, p. 81.; Engl. Fl. v. iv. p. 3.—Lindl. Syn. p. 256; Introd. to Nat. Syst. of Bot. p. 262.—Rich. by Macgilliv. p. 412.—Loud. Hort. Brit. p. 536.—Mack. Fl. Hibern. p. 274.—Macr. Man. Brit. Bot. p. 224.—Hook. Brit. Fl. (4th edit.) p. 425.—PALMARES; order, MUSALES; sect. ORCHIDINÆ; type, ORCHIDACEÆ; Burn. Outl. of Bot. v. i. pp. 391, 437, 458, & 461.

GEN. CHAR. *Perianthium*‡, *(calyx and corolla)* (figs. 1 & 2.) superior. *Sepals* (see fig. 1. & fig. 3, *a*, *a*, *a*.) 3, egg-shaped, concave, spreading, nearly equal, permanent; the two lateral ones somewhat dilated at the outer margin, and meeting under the lip. *Petals* (see fig. 3, *b*, *b*.) 2, smaller than the sepals, upright, converging under the upper sepal, and about the same length. *Lip (nectary)* (see fig. 3, *c*.) without a spur, as long as the petals, prominent, inflated and inversely egg-shaped beneath, lying on the two lateral sepals, and terminating above in an oblong, acute, undivided point, shorter than the inflated part on which it lies. *Anther* (see fig. 3, *d*. & fig. 4, *e*.) roundish, parallel to the stigma, and fixed to its upper part behind, of two parallel cells close together, depositing the inversely egg-shaped, granulated masses of *pollen* upon the summit of the stigma (fig. 4, *e*). *Germen* (see figs. 1 and 2.) inversely egg-shaped, angular, incurved. *Style (column)* (fig. 4, *d*.) taper, distinct, with two teeth at the apex. *Stigma* prominent, roundish. *Capsule* (fig. 6.) nearly elliptical, angular, furrowed. *Seeds* very numerous.

The herbaceous, spreading, egg-shaped *sepals;* the upright *petals;* the succate, entire *lip*, without a spur; the *anther* of 2 cells close together, parallel with the *stigma;* and the sessile, granulated *pollen-masses;* will distinguish this from other genera in the same class and order.

One species British.

GOODYE'RA REPENS. Creeping Goodyera. Creeping Satyrion.

SPEC. CHAR. Lower leaves egg-shaped, petiolated. Sepals, Petals, and Lip, egg-spear-shaped. Root creeping.

Hook. Fl. Lond. t. 144.—Lodd. Bot. Cab. t. 1987.—Brown in Ait. Hort. Kew. (2nd edit.) vol. v. p. 198.—Gray's Nat. Arr. v. ii. p. 208.—Sm. Engl. Fl. v. iv. p. 33.—Lindl. Syn. p. 257.—Hook. Brit. Fl. p. 376.—Macr. Man. Brit. Bot. p. 228.—Hook. Fl. Scot. p. 253.—Winch's Fl. of Northumberl. and Durh. p. 57.—Dick. Fl. Abred. p. 53.—*Satyrium repens*, Linn. Sp. Pl. p. 1339—Engl. Bot. t. 289.—Jacq. Fl. Austr. v. iv. p. 36. t. 369.—Lightf. Fl. Scot. v. i. p. 520. t. 22.—

Fig. 1. Back view of Germen and Sepals.—Fig. 2. Side view of a single Flower.—Fig. 3. Front view of the separate parts of a Flower; *a*, *a*, *a*. the sepals; *b*, *b*. the petals; *c*. the lip; *d*. the anther, and stigma.—Fig. 4. A Flower deprived of the sepals and petals; *a*. the bractea; *b*. the germen; *c*. the lip; *d*. the column; *e*. the stigma and pollen-masses.—Fig. 5. The pollen-masses separate.—Fig. 6. The Capsule.—*All, more or less, magnified.*

* Named in compliment to Mr. JOHN GOODYER, a Hampshire Botanist of the time of GERARDE.—HOOKER.

† See folio 8, note †. ‡ See folio 33, note ‡.

Huds. Fl. Angl. (2nd ed.) p. 387.—Sm. Fl. Brit. v. iii. p. 939.—With. (7th ed.) v. ii. p. 35.—*Neottia repens* Willd. Sp. Pl. v. iv. pt. 1. p. 75.—*Pseudo-orchis*, Bauh. Pin. p. 84.—Rudb. Camp. Elys. v. ii. p. 209. f. 8.—*Palma Christi, radice repente*, Johnson's Gerarde, p. 227.

Localities.—In old fir forests, and mossy alpine woods in Scotland; rare.—*Aberdeenshire;* Firwood at north-west side of Denmore; at Loch of Skene; Parkhill; Hazelhead; Park, &c., abundantly: Mr. G. Dickie. Firwood, Deeside: W. Stables, in N. B. G.—*Banffshire;* Gordon Castle Woods: Mr. Murray, Curator of the Botanic Garden, Glasgow.—*Elginsh.* Milton-Brodie Wood; Crookit Wood; Oak-wood; and Altyre: Rev. G. Gordon, in N. B. G.—*Forfarsh.* Fir woods, near Forfar: Mr. Don, of Forfar, in Headrick's Agricultural Survey of the County, p. 19, of the Appendix.—*Invernessh.* In a wood opposite to Moy-hall, on the south side of the road to Inverness: Dr. Hope, in *Lightf. Fl. Scot.* Woods of Culloden, near Inverness: Mr. Murray. Forest of Glenmore: Mr. J. Hooker, in N. B. G. Castle Grant: Rev. G. Gordon, ibid.—*Nairnsh.* Cawdor Woods: W. Stables, in N. B. G.—*Perthsh.* Near Dupplin: Mr. Shillinglaw. Woods of Scone: Mr. Murray.—*Ross-shire;* Among the *Hypna*, in an old shady moist hanging birch wood, called, in the *Erse* language, *Cadue*, or *Yellow-hill*, facing the house of Mr. Mackenzie, of Dundonald, about two miles from the head of Little Loch Broom; on the western coast of the county: Rev. J. Lightfoot, 1777.

Perennial.—Flowers from June to September.

Root branched, knotted or jointed, with downy radicles, creeping among moss and rotten leaves, and throwing out new runners or shoots, each terminating in a solitary tuft of 6 or 8 broad-stalked, egg-shaped, bluntish leaves. *Stems* from the centre of some of these tufts, from 6 inches to a foot high, upright, roundish, pubescent. *Leaves* smooth, somewhat succulent, the lowest on broad petioles, egg-shaped, striated and reticulated, nearly flat; the upper ones sheathing, narrower; the uppermost spear-shaped, or nearly awl-shaped, sessile, bracteiform. *Flowers* numerous, small, downy, white, sweet-scented, collected into a rather loose downy, twisted spike; each flower with a spear-shaped, tapering, concave, downy bractea at its base, longer than the germen. *Perianth* (fig. 3.) of 6 divisions, ringent (see fig. 2.); the 3 exterior *leaflets*, or *sepals*, (see fig. 1. & fig. 3, *a*, *a*, *a*.) nearly equal, egg-shaped, or egg-spear-shaped, concave, downy within; the two upper of the three interior *leaflets*, or *petals*, (fig. 3. *b*, *b*.) the smallest; smooth, and so closely united to the uppermost sepal, as to be scarcely distinguished from it, without close examination; the sixth *leaflet*, or *lip*, *(nectary* of Linn.*)* (see fig. 3, c. & fig. 4.) with a singularly gibbous base, white in the tumid part with tawny stripes; the point white or pale red, spear-shaped, channelled, recurved, and projecting nearly as far as the inflated base. *Column* very short. *Anther* fixed beneath the apex of the column, parallel with the stigma, roundish egg-shaped, yellow, convex on the back, plane on the front, 2-celled, the cells opening longitudinally (see fig. 4, *d*.). *Pollen-masses* (fig. 5.) yellow, egg-shaped, granulated, affixed to the apex of the stigma, and falling off with it (see fig. 4, *e*.). *Stigma* large, white, placed in front, nearly square, at length 2-horned. *Germen* (see fig. 4, *b*.) egg-shaped, furrowed, slightly twisted, pubescent. *Capsule* (fig. 6.) light brown, smooth. See *Sm. Engl. Fl.* and *Hook. Fl. Lond.*

In August last I received, through the kindness of an unknown friend, several fine specimens of this very rare and interesting plant, from Aberdeenshire; and from one of those specimens the drawing for the accompanying plate was made.

Lysimachia nemorum. Wood Loosestrife. 2l

Pub.d 3y W Baxter Botanic Garden Oxford. 1839

I Russell Del.t

W.W. Ellis Sc.

LYSIMA'CHIA *.

Linnean Class and Order. PENTA'NDRIA †, MONOGY'NIA.

Natural Order. PRIMULA'CEÆ ‡, *Vent.*—Lindl. Syn. p. 182.; Introd. to Nat. Syst. of Bot. p. 225.—Rich. by Macgilliv. p. 431.—Loud. Hort. Brit. p. 529.—Mack. Fl. Hib. p. 192.—Hook. Brit. Fl. (4th edit.) p. 415.—LYSIMACHIÆ, sect. 1. Juss. Gen. Pl. p. 95.—Sm. Gr. of Bot. p. 95.—SYRINGALES; subord. PRIMULOSÆ; sect. PRIMULINÆ; type, PRIMULACEÆ: subty. PRIMULIDÆ; Burn. Outl. of Bot. v. ii. pp. 900, 958, 1020, 1024, & 1025.—ROTACEÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, of 1 sepal, in 5 deep, spreading, acute segments, permanent. *Corolla* (figs. 2 & 9.) of 1 petal, wheel-shaped, tube none; limb (border) widely expanded, in 5, deep, egg-shaped segments. *Filaments* (fig. 4.) 5, awl-shaped, not distinctly hairy, inserted into the base of the corolla, and opposite to its segments. *Anthers* oblong, notched at each end. *Germen* (see fig. 5.) roundish. *Style* (see fig. 5.) thread-shaped, the length of the stamens (see fig. 4). *Stigma* blunt. *Capsule* (fig. 7.) globular, pointed, of 1 cell, and 10 valves, sometimes cohering in pairs. *Seeds* (fig 8.) numerous, angular, covering a large, central, globular, unconnected, pitted *receptacle*.—In some species the stamens are united at the base.

The 5-parted *calyx*; the wheel-shaped *corolla*; and the globose, 1-celled *capsule*, with 5 or 10 valves; will distinguish this from other genera, with a monopetalous, inferior corolla, in the same class and order.

Four species British.

LYSIMA'CHIA NE'MORUM. Wood Loosestrife. Yellow Pimpernel. Wood Moneywort.

SPEC. CHAR. Leaves egg-shaped, acute. Stem procumbent. Peduncles solitary, 1-flowered. Stamens smooth.

Engl. Bot. t. 527.—Curt. Fl. Lond. t. 328.—Curt. Brit. Entom. v. iv. t. 164.—Linn. Sp. Pl. p. 211.—Huds. Fl. Angl. (2nd ed.) p. 86.—Willd. Sp. Pl. v. i. pt. ii. p. 820.—Sm. Fl. Brit. v. i. p. 228.; Engl. Fl. v. i. p. 278.—With. (7th ed.) v. ii. p. 295.—Lindl. Syn. p. 184.—Hook. Brit. Fl. p. 89.—Macr. Man. Brit. Bot. p. 189.—Lightf. Fl. Scot. v. i. p. 138.—Sibth. Fl. Oxon. p. 74.—Abbot's Fl. Bedf. p. 15.—Davies' Welsh Bot. p. 21.—Purt. Midl. Fl. v. i. p. 121.—Relh. Fl. Cant. (3rd ed.) p. 86.—Hook. Fl. Scot. p. 72.—Grev. Fl. Edin. p. 19.—Fl. Devon. pp. 36 & 142.—Johnst. Fl. of Berw. v. i. p. 56.—Winch's Fl. of Northumb. and Durh. p. 13.—Walker's Fl. of Oxf. p. 54.—Jacob's West Devon and Cornwall Flora.—Perry's Pl. Varvic. Sel. p. 17.—Dick. Fl. Abred. p. 28.—Mack. Catal. of Plants of Irel. p. 22.; Fl. Hibern. p. 194.—*Numularia sylvatica*, Gesner Hort. Germ. *fide*, GRAY.—Gray's Nat. Arr. v. ii. p. 300.—*Anagallis lutea*, Ray's Syn. p. 282.—Johnson's Gerarde, p. 618.

LOCALITIES.—In woods, and shady, rather watery, places; frequent.

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. One of the Segments of the Corolla.—Fig. 4. Stamens and Pistil.—Fig. 5. A single Stamen, *magnified*.—Fig. 6. Germen, Style, and Stigma.—Fig. 7. Capsule, with the permanent Calyx.—Fig. 8. A Seed.—Fig. 9. A back view of the Corolla.

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* So named in honour of king LYSIMACHUS, according to some; according to others, from *Lucis*, Gr. a *dissolving*; and *mache*, Gr. *strife*; being supposed to create a peaceable disposition in men. PLINY says it tames restive horses. The English name (*Loosestrife*) expresses the same idea.

† See folio 18, note †. ‡ See folio 296, *a*.

Perennial.—Flowers from May to September.

Root composed of many branching, whitish fibres. *Stems* branched, leafy, square, smooth, red and pellucid, from 6 to 18 inches or more long, trailing on the ground, and throwing out roots from the lower joints; often pendant from banks and rocks. *Leaves* opposite, on short, broadish petioles; egg-shaped, pointed, entire, veiny, of a bright shining yellowish-green, rather succulent. *Peduncles (flower-stalks)* solitary, axillary, single-flowered, round, slender, smooth, longer than the leaves, bent, or twisted, after flowering. *Calyx* of 1 sepal, divided almost to the base into five narrow, awl-shaped, smooth, single ribbed, segments. *Corolla* divided beyond the middle into five segments, which are fringed with minute glandular hairs. *Stamens* yellow, quite smooth, rather thickest in the middle (see fig. 5). *Capsule* globular, of 10 narrow valves, united in pairs. *Seeds* angular.

An elegant plant, and not unfrequent in most parts of Britain, France, and Germany, in moist woods, and wet shady places. It is found in several places about Oxford; as on the north side of Shotover Hill; also in Stow Wood; Bagley Wood; and Headington Wick Copse; generally, however, near the margins of springs and small rivulets, whose banks it enlivens, in the Summer months, with its glossy green leaves, and its delicate and bright yellow flowers, which, when fully expanded, somewhat resemble those of the common Pimpernell, (t. 29.), and hence the older Botanists considered it as an *Anagallis*.

THE SPIRIT OF BEAUTY *.

"Go forth to the woods, and tread the green dell,
For the Spirit of Beauty is there;
You will see her fair form in the snow-drop's white bell,
You will hear her sweet voice in the air.

I have been to the woods, I have trod the green dell,
And the Spirit of Beauty was there;
I saw her fair form in the snow-drop's white bell,
I heard her soft voice in the air.

Wherever I roved, over vale, wood, or hill,
The Spirit of Beauty would follow me still;
She danced in the aspen, she sighed in the gale,
She wept in the shower, she blushed in the vale;
Her mantle was thrown o'er the misty brake,
Her splendour shone on the sparkling lake;
I felt her breath in the breezes of even,
Her robe floated over the blue of heaven.
Wherever I roved, over vale, wood, or hill,
The Spirit of beauty would follow me still.
Not the buz of an insect, or carol of bird,
Not an echo nor sound in the valley was heard,
Not a wild-brier rose its fragrance breathed,
Not an elm its clustering foliage wreathed,
Not a violet opened its leaves of blue,
Not a plant or flower in the valley grew,
Not an ivy caressing the rock or the wall,
But the Spirit of Beauty was over them all!"

American Monthly Magazine.

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* See "The Gardener's Gazette," for November 17, 1838.

Oxyria reniformis. — Mountain sorrel. L

C.Matthews, Del. W.Willis, S.

Pubd by W.Baxter Botanic Garden Oxford. 1839

OXY'RIA*.

Linnean Class and Order. HEXA'NDRIA†, DIGY'NIA.

Natural Order. POLYGO'NEÆ, Juss. Gen. Pl. p. 82.—Sm. Gr. of Bot. p. 90.—Lindl. Syn. p. 209.; Introd. to Nat. Syst. of Bot. p. 169.—Rich. by Macgilliv. p. 424.—Loud. Hort. Brit. p. 531.—Mack. Fl. Hibern. p. 220.—Hook. Brit. Fl. (4th edit.) p. 417.—QUERNEALES; sect. RUMICINÆ; type, POLYGONACEÆ; Burn. Outl. of Bot. v. ii. pp. 523, 587, & 596.—HOLERACEÆ, *Linn.*

GEN. CHAR. *Perianthium*‡ (fig. 1.) inferior, of 4, somewhat inversely egg-shaped, permanent sepals; the two inner ones (petals of *Sm.*) rather largest. *Corolla* none. *Filaments* (see fig. 2.) 6, awl-shaped, shorter than the perianth. *Anthers* upright, of 2 oblong lobes. *Germen* (fig. 3.) superior, egg-shaped, compressed, with membranous edges, cloven at the summit. *Styles* (see fig. 3.) 2, one from each point of the germen, very short, reflexed. *Stigmas* in many fine, tufted segments. *Nut* (fig. 4.) 2-edged, with a dilated, nearly orbicular, flat, vertical, membranous, cloven, undulated wing. *Embryo* in the centre, straight.

Distinguished from other genera, in the same class and order, by the *perianthium* of 4 sepals; the compressed *nut*, with a broad membranous margin; and the upright, inverted *embryo*.

Only one species known.

OXY'RIA RENIFO'RMIS. Kidney-shaped-leaved Mountain Sorrel. Welsh Sorrel.

SPEC. CHAR.

Hook. Fl. Scot. p. 111.—Curt. Brit. Entom.. v. xv. t. 714.—Spreng. Syst. Veg. v. ii. p. 135.—Sm. Engl. Fl. v ii. p. 188.—With. (7th edit.) v. ii. p. 453.—Lindl. Syn. p. 211.—Hook. Brit. Fl. p. 167.—Macr. Man. Brit. Bot. p. 199.—Walker's Fl. of Oxf. p. 101.—Dick. Fl. Abred. p. 34.—Mack. Catal. of Pl. of Irel. p. 34.; Fl. Hiber. p 223.—*Oxyria digyna*, Dec. Bot. Gall. p. 403.—*O. acida*, Brown.—*O. rotundifolia*, Gray's Nat. Arr. v. ii. p. 277.—*Rumex digynus*, Engl. Bot. t. 910.—Linn. Sp. Pl. p. 480.—Huds. Fl. Angl. (2nd ed.) p. 156.—Sm. Fl. Brit. v. i. p. 395.—Willd. Sp. Pl. v. ii. pt. 1. p. 258.—Lightf. Fl. Scot. v. i. p. 190.—*Rheum digynum*, Wahlenb. Fl. Lapp. p. 101. t. 9. f. 2.—*Acetosa rotundifolia repens Eboracensis, folio in medio deliquium patiente*, Ray's Syn. p. 143.

LOCALITIES.—Abundant in mountain bogs, rills, moist clefts of rocks, and within reach of the spray of cascades.—*Cumberland;* By Black Lead Mine, in Borrowdale: Mr. HUTTON. In a ravine of the Screes near Wastwater: Mr. WOOD. Ashness Gill; Vale of Newlands; and Black Rocks of Great End: Mr. WATSON, in N. B. G.—*Westmoreland;* On the mountains, and very elevated spots: Sir J. E. SMITH. By the side of a waterfall near Buckbarrow Well in Longsleddale: N. J. WINCH, Esq. Striden Edge, Helvellyn: N. B. G.—*Yorksh.* Mountains of the North and West Ridings: TEESDALE.—WALES. *Caernarvonshire;* Cwm Idwel; Clogwyn y Garnedd; and Crib y Ddescil: Mr. GRIFFITH. Moist rocks near Llyn Fynnon Las: D. TURNER, Esq. Shore of Llyn Idwell, and rocks above: Mr. WATSON, in N. B. G. Gravelly shore of Llanberris Lake, stunted: J. E. BOWMAN, in N. B. G. Snowdon: C. C. BABINGTON, ibid.—*Merionethsh.* By the rivulets above Llyn y Cai: Mr. MARTYN.

Fig. 1. Perianthium.—Fig. 2. A separate Flower.—Fig. 3. Germen, Styles, and Stigmas.—Fig. 4. Fruit, or Nut.—Fig. 5. A Seed.—Fig. 1. *slightly magnified.*

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* From *oxus*, Gr. *sharp* or *acid;* from the acid flavour of this, as of many other plants belonging to the same natural family. HOOKER.

† See folio 33, note †. ‡ See folio 33, note ‡.

On Cader Idris, abundant, and very fine: J. E. Bowman, in N. B. G.—SCOTLAND. *Aberdeensh.* Among the loose stones on north bank of Dee, above the Old Bridge; and south bank, near Nether Banchory Church: Mr. Dickie. *Argylesh.* Road-side in Glencoe, and between King's House and Inveroran; also on the mountains in many places: Mr. Watson, in N. B. G.—*Elginsh.* Lower part of Elgin: Rev. G. Gordon, ibid.—*Forfarsh.* Summit of the Clova Mountains: Mr. Don, of Forfar. At the upper part of Glen Clova, on the bed of the river; and frequent on the mountains: Mr. Watson, in N. B. G. Loch Lee: Mr. G. Macnab, ibid.—*Inverness-shire;* Ben Nevis; Red Cairn: Mr. Watson, ibid.—*Orkney Isles;* Hoy: Dr. Gillies, ibid.—*Perthsh.* On the Breadelbane Mountains, and descending along the courses of the mountainous streams, almost to the levels of Lochs Dochart and Tay: Mr. Watson, ibid.—*Rossshire;* Ben Wevis: Rev. G. Gordon, ibid.—*Sterlingsh.* Ben Lomond: Mr. J. Hooker, in N. B. G.—IRELAND. *County of Kerry;* On Magillycuddy's Reeks, and Braodon Mountain.—*County of Sligo;* On Ben Bulben: Mr. Mackay.—*County of Tipperary;* Galtymore: ibid.

Perennial.—Flowers in June and July.

Root strong, running deep into the ground, subdivided and tufted at the crown. *Stems* solitary, upright, 8 or 10 inches high, roundish, striated, panicled, with rarely more than one leaf, often naked. *Leaves* numerous, almost all radical, on longish petiolcs, kidney-shaped, pale green, somewhat wavy, with a more or less evident obtuse sinus (broad shallow notch) at the apex. *Stipulas* membranous. *Paniele* upright, twice as tall as the leaves, branched, with minute, egg-shaped, membranous bracteas at the base of each ramification. *Flowers* small, on slender, whorted, simple pedicels, which are thickest upwards. *Anthers* reddish. *Germen* nearly orbicular, compressed, notched, with 2, spreading, feathery *styles*. *Fruit* (fig. 4.), a *nut*, enclosed in an *utriele*, with a broad winged border, tipped with the styles situated in rather a deep notch; and having at the base the 2 inner, pointed, segments of the *perianthium*, not at all enlarged. See *Hook. Brit. Fl.*

The whole herb is powerfully and gratefully acid, with some astringency. Sir W. J. Hooker informs us, that this plant is the *Donia sapida* of Mr. Brown, (now Dr. Brown,) in the first edition of *Ross's Voyage to the Arctic Regions;* but it had been previously named *Oxyria* (by Sir J. Hill).

The plant from which the drawing for the accompanying plate was made, was kindly communicated to me by W. Borrer, Esq. This plant put up two flowering stems; the first of which produced flowers which were all perfect, or with both stamens and pistils; the second, which flowered later than the first by ten days or a fortnight, produced only pistiliferous flowers.

The *Natural Order*, Polygo'neæ, is composed of dicotyledonous, *herbaceous*, rarely *shrubby*, plants; with sheathing *stipulas;* and often monœcious or dicecious *flowers*. Their *perianthium* is inferior, monosepalous, and divided into from 4 to 6 segments, which are often in a double row. Their *stamens* are definite, inserted in the bottom of the perianthium, with *anthers* opening longitudinally. The *germen* is superior, with 2 or more *styles* or sessile *stigmas*. The *nut* frequently triangular, with one erect seed, which contains, in a farinaceous, sometimes very thin *albumen*, a reversed and often unilateral *embryo*.

Corrigiola littoralis. Sand Strapwort. ○

C. Mathews, Del. &c.

Pub.d by W. Baxter, Botanic Garden, Oxford, 1839.

CORRIGI'OLA *.

Linnean Class and Order. PENTA'NDRIA †, TRIGY'NIA.

Natural Order. ILLECE'BREÆ ‡, *Dr. R. Brown.*—Lindl. Syn. p. 60.; Introd. to Nat. Syst. of Bot. p. 164.—PARONYCHIEÆ, Rich. by Macgilliv. p. 508.—Loud. Hort. Brit. p. 516.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 84.---Hook. Brit. Fl. (4th ed.) p. 407.---PORTULACEÆ, Juss. Gen. Pl. p. 312.---Sm. Gram. of Bot. p. 164.—QUERNEALES; sect. RUMICINÆ; type, SCLERANTHACEÆ; Burn. Outl. of Bot. pp. 523, 587, & 594.---HOLERACEÆ, *Linn.*

GEN. CHAR. *Calyx* (see fig. 1.) inferior, of 5, inversely egg-shaped, concave, spreading, permanent sepals, slightly cohering at the base. *Corolla* (see figs. 1 & 2.) of 5, inversely egg-shaped, spreading, entire petals, not exceeding the calyx, into which they are inserted alternately with its sepals. *Filaments* (see figs. 1—3.) 5, awl-shaped, small, inserted into the calyx, alternate with the petals. *Anthers* of 2 roundish lobes. *Germen* (see figs. 2 & 4.) superior, egg-shaped, with three slight angles. *Styles* (see fig. 4.) 3, short, spreading. *Stigmas* blunt. *Fruit* (fig. 5.) 1-seeded, indehiscent, covered by the calyx. *Seed* (see figs. 7 & 8.) single, suspended by its cord, which arises from the bottom of the cavity.

The inferior, 5-sepaled, permanent *calyx;* the 5-petaled *corolla;* and the 1-seeded, indehiscent *fruit;* will distinguish this from other genera in the same class and order.

One species British.

CORRIGI'OLA LITTORA'LIS. Shore Strapwort. Sand Strapwort. Bastard Knot-grass.

SPEC. CHAR. Stems bearing leaves on the part which bears the flowers.

Engl. Bot. t. 668.—Sib. Fl. Græc. v. iii. p. 86 t. 292.—Curt. Brit. Ent. v. xiv. t. 629.—Linn. Sp. Pl. p. 388.—Willd. Sp. Pl. v. i. pt. II. p. 1506.—Sm. Fl. Brit. v. i. p. 339.: Engl. Fl. v. ii. p. 113.—With. (7th ed.) v. ii. p. 403.—Gray's Nat. Arr. v. ii. p. 546.—Lindl. Syn. p. 60.—Hook. Brit. Fl. p. 144.—Macr. Man. Brit Bot p. 86.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 86. f. 21.—Fl. Devon. pp. 55 & 138.—*Polygonum littoreum minus, flosculis spadiceo-albicantibus,* Bauh. Pin. p. 281.—Morris. Hist. Pl. Uni. v. ii. p. 593. sect. 5. t. 29. f. 1.

LOCALITIES.—On the southern coast of England; rare.—*Cornwall;* On the beech near the tin mine at Helston: Mr. F. BORONE. On the shore of Loe Pool, near Helston, opposite Penrose on each side of a low wall: Mr. E. FORSTER, jun. On the banks of Loe Pool, near Helston; Sept. 1833: E. DUKE, Esq. Exeter College.—*Devon;* Found by Mr. HUDSON on Slapham Sands beyond Dartmouth; and near the Start Point: Professor MARTYN. Staddon Point: Dr. MOORE. Slapton: W. BORRER, Esq.

Fig. 1. A single Flower.—Fig. 2. A Flower deprived of 4 of its sepals, 3 of its petals, and 4 of its stamens, to show the Germen, the Styles, and the situation of the Stamens.—Fig. 3. A Stamen.—Fig. 4. Germen and Styles.—Fig. 5. The Nut or Capsule divested of the calyx.—Fig. 6. A transverse section of the same.—Fig. 7. A vertical section of the same, showing the seed, with its umbilical cord.—Figs. 8 & 9. The Albumen surrounded by the embryo.—Fig. 10. The Embyro separate.—Fig. 11. A small portion of the Stem, showing the stipulæ.—*All highly magnified.* Figs. 5 to 10. from GERTNER.

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* From *corrigia*, a *strap* or *thong;* to which the leaves may be imagined to bear a slight resemblance.

† See folio 48, note †. ‡ See folio 155, *a*.

Annual.---Flowers in July and August.

Root small, slender, tapering. *Stems* many, from 2, to 6 or 8 inches long, spreading on the ground, slender, flaccid, round, leafy, smooth, often reddish, mostly simple, flowering at the extremity. *Leaves* alternate, strap-spear-shaped, blunt, very entire, rather fleshy, smooth, glaucous, tapering at the base into a short *foot-stalk (petiole)*. *Stipulas* (see fig. 11.) in pairs, at the base of each leaf, pointed, membranous, white. *Flowers* very small, numerous, of a pearly white, in terminal and lateral, subdivided, or interrupted *clusters*, often sessile. *Calyx* very like the corolla, but the segments towards the base are of a rich chesnut brown. *Fruit* (fig. 5.) a small nut, covered with the permanent calyx; it is crustaceous, wrinkled, and tubercled, brown, 1-celled, 1-seeded, and indehiscent. *Seed* nearly globular, smooth, reddish-brown. A thread-shaped umbilical cord (funicle) ascends from the base of the nut to the top of the seed (see fig. 7). The *embryo* is roundish, inverted, pale yellow, and surrounds the albumen like a ring (see figs. 9 & 10).

This curious and delicate little plant is a native throughout Europe, on sandy shores. Mr. HUDSON, I believe, was the first who discovered it to be a native of England. In Portugal, Dr. WITHERING observes, it is not limited to the sea-side, but grows in hedge-banks, and in ploughed fields at a distance from the sea.

For the specimen from which the drawing was made, as well as for many other very rare British Plants, I am indebted to the kindness of W. BORRER, Esq. of Henfield, Sussex, who obligingly communicated them to me in July last. I have also received specimens of the *Corrigiola* from my friend, Mr. W. PAMPLIN, jun. of Lavender Hill, Wandsworth, Surrey.

" Nature ! to me, thou art more beautiful
In thy most simple forms, than all that man
Hath made, with all his genius, and his power
Of combination : for not he can raise
One structure, pinnacled, or domed, or gemm'd,
By architectural rule, or cunning hand,
Like to the smallest plant, or flower, or leaf,
Which living hath a tongue, that doth discourse
Most eloquent of HIM, the great Creator
Of all living things. Man's makings fail
To tell of aught but this, that he, the framer,
Sought also to create, and fail'd, because
No life can he impart, or breath infuse,
To give inertness being."

Hone's Every-day Book.

Potentilla rupestris. Rock Tinque-foil. 2

I.Russell.Del. Pub.d by W.Hanter Botanic Garden Oxford 1830 W.Willis.Sc

POTENTI'LLA*.

Linnean Class and Order. ICOSA'NDRIA†, POLYGY'NIA.

Natural Order. ROSA'CEÆ, Juss. Gen. Pl. p. 334.—Sm. Gram. of Bot. p. 171.—Lindl. Syn. p. 88.; Introd. to Nat. Syst. of Bot. p. 81.—Rich. by Macgilliv. p. 528.—Loud. Hort. Brit. p. 512.; Arbor. et Frutic. Brit. v. ii. p. 670.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 523.—Mack. Fl. Hibern. p. 85.—Hook. Brit. Fl. (4th ed.) p. 404.—ROSALES; sect. ROSINÆ; subsect. ROSIANÆ; type, ROSACEÆ; subtype, FRAGARIDÆ; Burn. Outl. of Bot. v. ii. pp. 614, 683, 699, & 700.—SENTICOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, permanent, of 1 sepal, in 10 deep segments, the 5 outer ones alternate with the inner, and narrowest. *Corolla* (fig. 2.) of 5 roundish, or inversely heart-shaped, spreading petals, opposite to the outer segments of the calyx, and attached by their short claws to its rim. *Filaments* (see fig. 3.) about 20, from the rim of the calyx, awl-shaped, upright, shorter than the corolla. *Anthers* roundish, incumbent, of 2 cells. *Germens* (see fig. 4.) superior, numerous, roundish, small, collected into a round head. *Styles* (see figs. 5 & 6.) thread-shaped, 1 to each germen, lateral, ascending, permanent. *Stigmas* bluntish, downy. *Seeds (nuts* of LINDLEY) (see figs. 5 & 6.) numerous, naked, roundish, generally more or less wrinkled, placed upon a small, dry, globular, permanent, unaltered *receptacle.*

Distinguished from other genera, in the same class and order, by the 10-cleft *calyx;* the 5-petaled *corolla;* the naked, rugged, beardless *seeds;* and the small, dry *receptacle.*

Eleven species British.

POTENTI'LLA RUPE'STRIS. Rock Cinque-foil. Strawberry-flowered Cinque-foil. Upright Bastard Cinque-foil.

SPEC. CHAR. Stem upright, forked, without runners. Leaves lyrate-pinnate; leaflets 7, 5, or 3, egg-shaped, serrated, hairy. Flowers white.

Engl. Bot. t. 2058.—Jacq. Fl. Austr. v. ii. p. 9. f. 114.—Linn. Sp. Pl. p. 711.—Huds. Fl. Angl. (2nd ed.) p. 223.—Willd. Sp. Pl. v. ii. pt. 11. p. 1097.—Sm. Fl. Brit. v. ii. p. 548.; Engl. Fl. v. ii. p. 417.—With. (7th ed.) v. iii. p. 633.—Gray's Nat. Arr. v. ii. p. 581.—Lindl. Syn. p. 96.—Hook. Brit. Fl. p. 251.—Macr. Man. Brit. Bot. pp. 68 & 69.—Don's Gen. Syst. of Gard. and Bot. v. ii. p. 560.—*Pentaphylloides erectum,* Bauh. Hist. v. ii. p. 598, d.—Ray's Syn. p. 255.—*Pentaphyllum fragiferum,* Johnson's Gerarde, p. 991.

LOCALITIES.—On shady alpine rocks in Wales; very rare.—*Montgomerysh.* On the sides of a hill called Craig Wreidhin, or rather Breiddin, where it was first found by Mr. LHWYD; see RAY's *Synopsis.* It was for a long time supposed to have been lost; but on the 29th of June, 1817, it was again found there, by J. E. BOWMAN, Esq. who observes, in the *New Botanist's Guide,* that "this very local plant is distributed sometimes in groups very profusely, on the W. face of the Breiddon Hill, occupying the middle zone, disappearing at 600 or 700 feet of elevation, and also not descending near the base. It occurs again

Fig. 1. Calyx.—Fig. 2. Corolla.—Fig. 3. A Flower with the petals removed showing the stamens and pistils.—Fig. 4. Calyx and Germens, with their Styles.—Fig. 5. A separate Nut with its lateral Style.—Fig. 6. The same *magnified.*

* From *potens, powerful;* from the medicinal properties attributed to some of the species. HOOKER. † See folio 100, note †.

on the very steep N. side, where it comes lower down."—In 1835, the Rev. Andrew Bloxam found it in the same locality, in abundance, and kindly communicated a plant to me, which is now (January 25, 1839) growing in the Oxford Garden, and from which plant the drawing for the accompanying plate was made.

Perennial.—Flowers in June and July.

Root somewhat woody, tapering, with numerous fibres. *Stem* about a foot high, upright, round, reddish, striated, more or less hairy, leafy, branched in a corymbose manner, and many-flowered. *Leaves* pinnate in a lyrate manner, hairy but not hoary, deep green; the radical ones largest, on long *leafstalks;* their leaflets 7; those of the upper leaves 5, or 3, roundish, or somewhat inversely egg-shaped, veined, unequally cut and serrated. *Stipulas* of the root-leaves strap-shaped, pointed; those of the stem-leaves romboid, roundish. *Flowers* in a forked corymbose panicle. *Calyx* downy at the base, enlarging after flowering, when it becomes brown and membranous. *Petals* white, roundish, or somewhat inversely heart-shaped, much larger than the calyx. *Styles* reddish. *Seeds* neither hairy nor wrinkled, on a very hairy or bristly *receptacle*.

This plant is a native of several parts of Europe and Siberia, on shady alpine rocks. It is of the very rarest occurrence in Britain, its only known locality being that recorded above.

The *Natural Order* Rosaceæ is composed of polypetalous, dicotyledonous *herbs* or *shrubs*, with alternate *leaves*, which are either simple or compound, and which are almost universally furnished with 2 *stipulas* at their base. The *calyx* is 4- or 5-lobed, sometimes having *bracteolæ* on its tube equal in number to the lobes, and alternate with them (see figs. 1, 2, & 4.), valvate or imbricate in the bud, with the disk surrounding the orifice, having the fifth or odd lobe next the axis. The *corolla* is 4- or 5-petaled; the *petals* perigynous and equal, with short claws. The *stamens*, which are indefinite, arise from the calyx, just within the petals, and are curved inwards in æstivation. The *filaments* are free; the *anthers* innate, 2-celled, and burst lengthwise. The *ovaries* (see fig. 4.) are several, superior, mostly free, rarely cohering either with the calyx or among themselves, 1-celled and 1-seeded. The *ovule* is usually suspended, seldom erect. The *styles* (see figs. 5 & 6.) are lateral, near the apex of the ovaries, with simple *stigmas*, emarginate on one side. The *fruit* is either 1-secded nuts or akenia. The *seeds* are pendent, rarely ascending. The *embryo* is straight, with a taper short radicle, pointing towards the hilum; the *cotyledons* flat and entire; without *albumen*.

Mr. Don divides this order into three *tribes*, namely, 1. Drya'deæ; 2. Neura'deæ; and 3. Ro'seæ. Two only of these tribes are applicable to the plants of Britain.

The first, or Drya'deæ, contains *Drya's*, t. 248.—*Géum*, t. 3.—*Rúbus*.—*Fragária*, t. 242.—*Potentilla*, t. 313.—*Tormentilla*.—*Cómarum*, t. 197.—*Sibaldia*.—and *Agrimónia*, t. 68.—The third, or Roseæ, has only the genus Rosa.

Spiræ'a, t. 133, belongs to the *Natural Order* Spiræa'ceæ of De Candolle. The plants of this order are distinguished from those of Rosaceæ by their dehiscent carpels, and by their styles being terminal, not lateral, as in that order.

Alchemilla, t. 280; and *Sanquisorba*, t. 269, belong to Dr. Lindley's *Natural Order* Sanquiso'rbeæ. This order differs from Rosa'ceæ in the plants which compose it having apetalous flowers, with an indurated calyx, and only one nut or carpel.

Meum athamanticum. Spignel. V.

Russell Del. Pub.d by W. Baxter, Botanic Garden Oxford 1839. Wilkes Sc

ME'UM *.

Linnean Class and Order. PENTA'NDRIA †, DIGY'NIA.

Natural Order. UMBELLI'FERÆ ‡, Juss. Gen. Pl. p. 218.—Sm. Gram. of Bot. p. 132.—Lindl. Syn. p. 111; Introd. to Nat. Syst. of Bot. p. 4.—Rich. by Macgilliv. p. 463.—Loud. Hort. Brit. p. 517.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 235.—Mack. Fl. Hibern. p. 113.—UMBELLATÆ, *Linn.*—ROSALES; sect. ANGELICINÆ; type, ANGELICACEÆ; subtype, ANGELICIDÆ; Burn. Outl. of Bot. v. ii. pp. 614, 770, 773, & 774.

GEN. CHAR. *Calyx* none. *Corolla* (figs. 1 & 2.) of 5, equal, elliptical petals, with incurved points. *Filaments* (see figs. 1 & 2.) 5, about the length of the petals, spreading, incurved. *Anthers* roundish. *Germen* (figs. 3 & 4.) inferior, somewhat egg-shaped, striated, blunt, a little compressed. *Styles* (see fig. 4.) 2, tumid at the base, very short in the flower, afterwards a little elongated and recurved. *Stigmas* simple. *Floral Receptacle* none. *Fruit* (figs. 5 & 6.) elliptical, very slightly compressed, contracted at the summit, and crowned with the permanent styles. *Carpels* (*seeds* of LINN.) convex, with 5 prominent, sharply keeled, equal ribs (see fig. 7.), with many *vittæ* in the interstices. *Seed* nearly half taper. *Universal Involucrum* of few leaves, or none. *Partial Involucrum* of many leaves.

The obsolete *calyx*; the entire, elliptical petals with incurved points; the nearly round *fruit;* the *carpels* with 5 prominent, sharply keeled, equal *ribs*, of which the lateral ones are at the margin; and the *interstices* with many *vittæ;* will distinguish this from other genera in the same class and order.

One species British.

ME'UM ATHAMA'NTICUM. Athamantian Spignel. Meu. Bear-wort. Bald-money §.

SPEC. CHAR. Leaves twice or thrice pinnate; leaflets all in numerous, deep, bristle-like segments. Stems leafy, not much branched.

Engl. Bot. t. 2249.—Jacq. Fl. Austr. v. iv. p. 2. t. 303.—Gærter, v. i. p. 105.—Sm. Fl. Brit. v. i. p. 308.; Engl. Fl. v. ii. p. 84.—With. (7th ed.) v. ii. p. 393.—Gray's Nat. Arr. v. ii. p. 516.—Lindl. Syn. p. 118.—Hook. Brit. Fl. p. 120.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 320.—Maer. Man. Brit. Bot. p. 101.—Winch's Fl. of Northumberl. and Durh. p. 20.—Dick. Fl. Abred. p. 31.—*Meum Athamanta*, Pers. Syn. v. i. p. 319.—*Meum*, Ray's Syn. p. 207.—Johnson's Gerarde, p. 1052.—*Athamánta Méum*, Linn. Sp. Pl. p. 353.—Huds. Fl. Angl. (2nd ed.) p. 116.—Lightf. Fl. Scot. v. i. p. 157.—*Æthusa Meum*, Linn. Syst. Veg. (14th ed,) p. 287.—Pers. Syst. Veg. p. 303.—Willd. Sp. Pl. v. i. pt. II. p. 1447.—With. (5th ed.) v. ii. p. 382.—*Liqústicum Meum*, De Cand. Fl. Fr. v. iv. p. 310.—Hook. Fl. Scot. p. 89.

Fig. 1. A separate Flower.—Fig. 2.—The same magnified.—Fig. 3. Germen.—Fig. 4. Ditto magnified.—Figs. 5 & 6. Fruit.—Fig. 7. A transverse section of the Fruit.—The two last *a little magnified.*

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* From *meion*, Gr. *smaller:* in reference to the extreme fineness and delicacy of its leaves.

† See folio 48, note †. ‡ See folio 235, *a*.

§ "*Bald*, or *Bald-money*, is a corruption of BALDER the APOLLO of the northern nations, to whom this plant was dedicated. Sir W. J. HOOKER.

Localities.—In dry mountainous pastures in the North of England and Scotland, especially in the Highlands; frequent.—*Cumberland;* Near the vicarage at Keswick: Rev. W. Wood. Bristow Hills, near Keswick: N. B. G.—*Lancash.* On the road by Scholefield Hall near Rochdale: Ray. In Conistone, Furness Fells: Mr. Jackson.—*Northumberland;* On a hill by the village of Throckrington: Wallis. On a basaltic height, a quarter of a mile north from Throckrington: Rev. J. Hodgson.—*Westmoreland;* Dun-Mail-raise: Mr. Fandon. About two miles from Sedberg in the way to Orton, abundantly in meadows and pastures: Ray. In a field by the fourth milestone leading from Kendal to Appleby: Mr. Gough.—*Yorkshire;* Mountainous parts of the West Riding, sparingly: Ray. Meadows at Mossdale Head, Wensley Dale: Mr. Brunton. Ripon: Mr. Bowman, in N. B. G. Near Boothwood Inn, between Halifax and Oldham: N. J. Winch, Esq.—WALES. *Merionethshire;* Near Dolgelle: Ray. On the east side of Bala Lake near Llan Gower; and on the west side between Llanycil and Dolgelle, but more sparingly: Mr. Griffith. Garneddwen, between Bala and Dolgelle: Rev. H. Davies.—SCOTLAND. *Aberdeenshire;* Banks of Dee, near the Old Bridge, near Aberdeen: Mr. Dickie. On a green bank, nearly opposite the front of Invercauld House, by the road-side between Castleton and the bridge over the Dee, below the village: Mr. Watson, in N. B. G.—*Dumbartonshire;* About Balvie, Glasgow: Mr. Hopkirk. Loch Lomond: Mr. Murray.—*Forfarshire;* On the banks of the river, above and below the Kirk of Clova: Mr. Watson, in N. B. G. In pastures in the valleys of the high lands of the Clova Mountains: Mr. Don, of Forfar, in *Agr. Report of Anguss-shire,* Append. p. 18.—*Inverness-shire;* North side of Loch Ness: Mr. Murray.—*Kirkcudbrightshire;* Carsphairn: G. Gordon, in N. B. G.—*Lanarkshire;* Rare, near Plowland, Avondale: *Fl. of Lanark.* Kittochside and Cross-hill, in Kilbride; on Cathkin Hills: Mr. Hopkirk.—*Linlithgowshire;* West Lothian: Rev. J. Lightfoot —*Perthshire:* About Dunkeld: *ibid.* Glen Shee: Mr. Watson, in N. B. G.—*Renfrewshire;* Lochwinnoch: Mr. J. Montgomery, in N. B. G.

Perennial.—Flowers in May and June.

Root tap-shaped, thick, woody, and branching; crowned with the fibrous remains of old leafstalks. *Stem* from 1 to 2 feet high, upright, not much branched, round, hollow, leafy, striated. *Leaves* alternate, oblong, twice or thrice pinnate, dark green, smooth; *leaflets* opposite, in numerous capillary, very delicate, pointed segments. *Petioles (leafstalks)* dilated and membranous at the base. *Umbels* upright, of many general and partial rays. *General Involucrum* either wanting, or of few strap-spear-shaped leaves, which are mostly 3-cleft. *Partial Involucrum* lateral, of several entire or cut leaves; these, by some oversight, are omitted in the engraving, an omission not observed till the whole impression of the plate was worked off. *Flowers* numerous, white or reddish, uniform. *Calyx* seldom visible. *Petals* occasionally somewhat inversely heart-shaped. *Fruit* smooth, slightly compressed, with sharp ribs.

A rather pretty plant, remarkable for the numerous bristle-like segments of its leaves, and its very powerful aromatic smell. The roots and seeds are aromatic and acrid, and have been used as stomachics and carminatives. Where this plant abounds in the Highlands, the milk and butter partake of its peculiar Melilot-like taste in the Spring; and a strong infusion of it is said to give cheese the flavour of the Swiss *Chapziegar.*

Lactuca virosa Strong-scented Lettuce &

C. Mathews Del. & Sc. Pub.d by W. Baxter Botanic Gard.n Oxford 1839.

LACTU'CA*.

Linnean Class & Order. SYGENE'SIA†, POLYGA'MIA, ÆQUALIS‡.

Natural Order. COMPO'SITÆ§, *(Linn.)*, tribe, CICHORA'CEÆ, Lindl. Syn. pp. 140 & 156.; Introd. to Nat. Syst. of Bot. pp. 197 and 201.—Loud. Hort. Brit. pp. 520 & 521.—Mack. Fl. Hibern. pp. 142 & 159.—Hook. Brit. Fl. (4th ed.) p. 410.—CICHORA'CEÆ, Juss. Gen. Pl. p. 168.—Sm. Gr. of Bot. p. 120.—SYNANTHE'REÆ, Rich. by Macgilliv. p. 454.—SYRINGALES; subord. ASTEROSÆ; type, CICHORACEÆ; Burn. Outl. of Bot. pp. 900, 901, & 935.

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) cylindrical, of many, pointed, imbricated, unequal, flat scales, which are membranous at the margin. *Corolla* (fig. 2.) compound, imbricated, uniform; *florets* (figs. 2 & 3.) numerous, perfect, equal, all strap-shaped, blunt, with 4 or 5 teeth. *Filaments* (see fig. 4.) 5, hair-like. *Anthers* in a cylindrical tube. *Germen* (see figs. 3 to 6.) inversely egg-oblong. *Style* (figs. 4 and 5.) thread-shaped, longer than the stamens. *Stigmas* 2, revolute. *Seed-vessel* none, except the unaltered closed involucrum. *Seed* (figs. 7 & 8,) inversely egg-shaped, furrowed, roughish, compressed. *Pappus (down)* (see figs. 7 & 8.) simple, hair-like, very slender, elevated on a stalk about its own length. *Receptacle* (see fig. 9.) narrow, naked, dotted.

The oblong, imbricated *involucrum*, with its scales membranous at the margin; the naked *receptacle;* and the stalked, simple *pappus;* will distinguish this from other genera, with uniform, strap-shaped *florets*, in the same class and order.

Three species British.

LACTU'CA VIRO'SA. Strong-scented Lettuce. Cut Lettuce.

SPEC. CHAR. Leaves horizontal, finely toothed, 2-eared and amplexicaul at the base, their keel prickly. Flowers panicled.

Engl. Bot. t. 1957.—Woodv. Med. Bot. Suppl. t. 250.—Linn. Sp. Pl. p. 1119.—Huds. Fl. Angl. (2nd ed.) p. 337.—Willd. Sp. Pl. v. iii. p. 1526.—Sm. Fl. Brit. v. ii. p. 819.; Engl. Fl. v. iii. p. 345.—With. (7th edit.) v. iii. p. 885.—Gray's Nat. Arr. v. ii. p. 417.—Lindl. Syn. p. 156.—Hook. Brit. Fl. p. 339.—Macr. Man. Brit. Bot. p. 142.—Lightf. Fl. Scot. v. i. p. 429.—Sibth. Fl. Oxon. p. 237.—Thornt. Family Herbal, p. 682.—Purt. Midl. Fl. v. ii. p. 372.—Relh. Fl. Cant. (3rd ed.) p. 318.—Hook. Fl. Scot. p. 227.—Grev. Fl. Edin. p. 166.—Rev. G. E. Smith's Pl. of S. Kent, p. 45.—Johnst. Fl. Berw. v. i. p. 173.—Winch's Fl. of Northumb. and Durh. p. 50.—Walker's Fl. of Oxf. p. 222.—Perry's Pl. Varvic. Selectæ, p. 65.—*Lactuca sylvestris major, odore Opii*, Ray's Syn. p. 151.—Johnson's Gerarde, p. 309.

LOCALITIES.—About hedges, old walls, banks, and way-sides, on a chalky soil; not uncommon.—*Oxfordshire;* Marston Lane: Dr. SIBTHORPE. Under hedges by the side of a footpath leading from the back of the Roman Catholic Chapel to the Asylum.—*Berks;* By the side of the new road going from Botley to Ensham, about 200 or 300 yards before you come to the bridge; July 30, 1831: W. B. Near Maidenhead: Mr. W. HURST, in N. B. G.—*Cambridgesh.* In

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Fig. 1. Involucrum.—Fig. 2. Corolla.—Fig. 3. A Floret.—Fig. 4. Stamens and Pistil.—Fig. 5. Germen, Style, and Stigma.—Fig. 6. Germen.—Figs. 7 and 8. Seed.—Fig. 9. Receptacle.—*All*, except figs. 1, 2, 7, & 9, *magnified*.

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* From *lac*, *milk*; the whole plant being very milky.
† See f. 91, n. †. ‡ See f. 117, n. ‡. § See f. 27, *a*.

the road to Cottenham, by the second bridge from Histon. Ditch near Denny Abbey. Burwell Pit: Rev. R. Relhan.—*Derbysh.* Near Swarkeston Bridge: Ch. Babington, in N. B. G.—*Durham;* On the bank between the Castle at Barnard-Castle and the river Tees, near Harton, Cocken, and Darlington, and by hedge sides near Low Team; also in a hedge near Cleadon, and near Norton, Stockton, and Billingham: N. J. Winch, Esq.—*Essex;* Near Woodford: Mr. R. Warner.—*Gloucestersh.* Giant's Hole, St. Vincent's Rocks: Miss Worsley, in N. B. G.—*Hampsh.* Among bushes on the shore between Southampton and Netley; and other places about Southampton: W. A. Bromfield, in N. B. G.—*Kent;* Above the Cliff, halfway between Folkstone and Sandgate. Upon the Chalk Cliffs around Lydden Spout: Rev. G. E. Smith.—*Leicestersh.* Near Congerstone, and Gracedieu; and between Gopsal Park and the Ashby-de-la-Zouch Lodge: Rev. A. Bloxam.—*Middlesex;* World's End, near Stepney, and banks of the Thames between Blackwall and Woolwich: Mr. Jones. Hampstead Heath: *Fl. Metr.*—*Norfolk;* Fritton churchyard, and by St. Bennet's Abbey: *Hist. Yarm.* Near Diss: Mr. Woodward. *Norfolk:* Miss Bell, in N. B. G.—*Northamptonsh.* Near Northampton: Morton.—*Northumberland;* On the banks of Tweed, above Coldstream Bridge; also near Cullercoats: N. J. Winch, Esq. From the Union Bridge to Norham Castle; also near Twizell Toll-bar: Dr. G. Johnston.—*Notts.* On the Rock at the left hand entering Nottingham Park; and upon the stony part of Clifton Hill, facing the Trent; also behind Clifton Hall near the Trent: Dr. Deering. By the Trent at Colwick Saw-yard; Southwell, Coddington, and between Blyth and Bowtry: N. B. G.—In *Somersetshire:* Dr. Gapper, in N. B. G.—*Suffolk;* Bungay: Mr. D. Stock, in N. B. G.—*Surrey;* Hedge banks between Battersea and Clapham: Mr. W. Pamplin, jun. Near Norwood; and on Streatham Common: *Fl. Metr.*—*Warwicksh.* Road-sides, Stonebridge: Rev. W. T. Bree. Road-side between Dunchurch and Southam; and between Southam and Ladbrook; July, 1831: W. B. Between Dunchurch and Willoughby: Rev. A. Bloxam.—In *Worcestershire:* Mr. E. Lees.—*Yorkshire;* Richmond: Mr. J. Ward, in N. B. G. Limestone Tract, near Leeds: H. Denny, Esq. ibid. On the walls of Fountain's Abbey: N. J. Winch, Esq.—SCOTLAND. In the counties of *Berwick, Edinburgh, Perth, Roxburgh, Sterling;* and on the *Orkney Isles;* but not common.

Biennial.—Flowers in July and August.

Root tap-shaped. *Stem* from 2 to 6 feet high, or more, upright, round, smooth in the upper part, a little prickly below; sparingly leafy, scarcely branched; panicled at the top. *Root-leaves* somewhat inversely egg-shaped, toothed at the margin. *Stem-leaves* alternate, spreading horizontally, large, inversely egg-shaped, blunt, tapering towards the base; the upper ones becoming gradually smaller, arrow-shaped at the base, and more decidedly stem-clasping, sometimes lobed; the mid-rib of all more or less beset underneath with prominent prickles, such as often occur on the margin also. *Flowers* numerous, small, yellow, in a large, upright, spreading panicle; with many small, heart-shaped, pointed *bracteas*. *Involucrum* imbricated, smooth, its scales more or less tinged with purple, the upper ones downy at the tip, indistinctly keeled. *Seeds* black, furrowed, and roughish. *Pappus* rough, on a pedicel about the length of the seed; see fig. 8.

The whole plant abounds with an acrid, fetid milky juice, which springs out suddenly, in large drops, on the slightest touch, from the involucrum and tender leaves. This juice has the smell of opium, and possesses narcotic and diuretic properties. Dr Collin, of Vienna, relates 24 cases of dropsy, out of which 23 were cured by taking the extract prepared from the expressed juice, in doses from 18 grains to 3 drams in 24 hours. It commonly proves laxative, in a degree diaphoretic, and removes thirst. It must be prepared when the plant is in flower.

Cherleria Sedoides. Mossy Cyphel. U.

C. Mathews, Del. & Sc.

Pub.d by W. Baxter Botanic Garden Oxford 1839

CHERLE'RIA*.

Linnean Class and Order. DECA'NDRIA†, TRIGY'NIA.

Natural Order. CARYOPHY'LLEÆ‡, *Linn.*—Juss. Gen. Pl. p. 299.—Sm. Gram. of Bot. p. 159.—Lindl. Syn. p. 43.; Introd. to Nat. Syst. of Bot. p. 156.—Rich. by Macgilliv. p. 507.—Loud. Hort. Brit. p. 501.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 379.—Mack. Fl. Hib. p. 40.—Hook. Brit. Fl. (4th ed.) p. 400.—ROSALES; subord. RHŒADOSÆ; sect. DIANTHINÆ; type, DIANTHACEÆ; Burn. Outl. of Bot. pp. 614, 784, 805, & 807.

GEN. CHAR. *Calyx* (see figs. 1 & 2.) inferior, of 5 spear-shaped, concave, equal, permanent sepals, united at the base. *Corolla* (see fig. 2.) of 5, very minute, cloven petals (nectaries of *Linn.*), at the inside of 5 of the stamens, opposite to the sepals (see fig. 3). *Filaments* (see fig. 2.) 10, awl-shaped, the 5 alternate ones attached to the backs of the petals. *Anthers* roundish. *Germen* (see figs. 2 and 4.) oval, superior. *Styles* (see figs. 2 & 4.) 3, short. *Stigmas* blunt. *Capsule* egg-shaped, of 3 cells (?) and 3 valves (see fig. 5). *Seeds* (fig. 6.) 2 in each cell, angular.

Distinguished from other genera, in the same class and order, by the *calyx* of 5 sepals; the *corolla* of 5 very minute, cloven petals (or nectaries); and the *capsule* of 3 cells and 3 valves.

One species British.

CHERLE'RIA SEDOI'DES. Sedum-like Cherleria. Dwarf Cherleria. Mossy Cyphel.

SPEC. CHAR. Plant small, tufted. Leaves 3-sided, awl-shaped, bluntish, slightly toothed on the margin, spreading. Valves of the capsule bluntish, callose at the apex, longer than the calyx. DON.

Engl. Bot. t. 1212.—Jacq. Fl. Austr. t. 284.—Linn. Sp. Pl. p. 608.—Huds. Fl. Angl. (2nd edit.) p. 193.—Willd. Sp. Pl. v. ii. pt. 1. p. 730.—Sm. Fl. Brit. v. ii. p. 483.; Engl. Fl. v. ii. p. 312.—With. (7th ed.) v. ii. p. 555.—Gray's Nat. Arr. v. ii. p. 653.—Lindl. Syn. p. 48.—Hook. Brit. Fl. p. 208.—Macr. Man. Brit. Bot. p. 34.—Lightf. Fl. Scot. v. i. p. 232.—Hook. Fl. Scot. p. 139.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 448.—*Sedum montanum perpusillum luteolis floribus*, Park. Theatr. Bot. p. 737. fig. 11.—*Sedum montanum perpusillum luteum*, Moris. v. iii. p. 471. sect. 12. t. 6. f. 14.

LOCALITIES.—On the loftiest mountains of Scotland, in moist spots near their summits; not unfrequent.—*Argyleshire;* On Ben Achalader, in the Braes of Glenurchay: Dr. STUART.—*Forfarshire;* Little Kilrannock, Clova Mountains: J. MACNAB, in N. B. G.—*Inverness-shire;* On Baikeval, in Rum: Rev. J. LIGHTFOOT. *Perthshire;* On Ben Teskerney and Ben Challum, in Breadabane, plentifully: Rev. J. LIGHTFOOT. Mael-grea and Malnantarmonach, between Breadabane and Glen Lyon: Dr. STUART. In some plenty on Ben Lawers and Killin Mountains: Mr. WATSON, in N. B. G.—In *Ross-shire:* G. SMITH, Esq. ibid.—On Ben Lomond; 1800: N. J. WINCH, Esq. ibid.—*Sutherland;* Near Keoldale: GRAHAM, ibid. Ben More: W. H. CAMPBELL, ibid. In some plenty on the highest parts of Ben Hope: Mr. WATSON, ibid. Summit of the hills at Inchnadamf: G. JOHNSTON, ibid.

Fig. 1. Calyx and Bracteas.—Fig. 2. Front view of a Flower, showing the Sepals; the minute, cloven, gland-like Petals; the Stamens, Germen, and Styles.—Fig. 3. One of the Sepals, with a Petal and a Stamen.—Fig. 4. Germen, Styles, and Stigmas.—Fig. 5. Capsule.—Fig. 6. A Seed.—Lower figure, a tuft of Leaves. —*All more or less magnified.*

* So named in honour of JOHN HENRY CHERLER, who assisted the celebrated Botanist, JOHN BAUHIN, in his general History of Plants.

† See folio 37, note †. ‡ See folio 152, *a*,

Perennial.—Flowers in July and August.

Roots densely crowded, strong and somewhat woody. *Stems* 2 or 3 inches high, very closely matted together, and forming large, green, mossy tufts, bearing a great resemblance to tufts of *Polytricum*, or some species of *Bryum*. *Leaves* opposite, somewhat awl-shaped, 3-sided, bluntish, rather fleshy, smooth on both sides, minutely fringed or toothed at the margin, connected at the base into a kind of sheath. When the leaves fall off, the sheath and the keel of the leaves remain attached to the stem. *Stipulas* none. *Flowers* yellowish-green, solitary, upright, stalked, terminating the short upright stems; each *flower-stalk* bearing a pair of small, blunt *bracteas* about the middle. *Sepals* egg-spear-shaped, bluntish, streaked with three lines on the back, membranous at the margin. *Petals* very minute, cloven, somewhat fleshy, much shorter than the sepals, and opposite to them. LINNÆUS considered these as *nectaries*, and described the genus as having no *corolla*. SEGUIER, however, describes 5 undivided greenish *petals*, alternate with the *sepals;* but these, Sir J. E. SMITH observes, nobody else has seen. Five of the *anthers* are said to be sometimes imperfect.—Till lately this was the only known species of the genus, but Mr. DON, in his *General System of Gardening and Botany*, has described six, in two of which, viz. *Cherleria grandiflora*, and *Ch. juniperina*, both natives of Nipaul, the *petals* are much longer than the *sepals*.

Cherléria sedoides is a pretty little tufted, alpine plant, an inhabitant of the highest mountains of Dauphiné, Switzerland, Savoy, the Valais, Austria, and Carniola, as well as of the Highlands of Scotland.

For living specimens of this curious little plant, I am indebted to the kindness of the Rev. J. S. HENSLOW, M.A. F.L.S. &c. Professor of Botany at Cambridge; W. BORRER, Esq. F.R.S. &c. of Henfield, Sussex; and Mr. W. PAMPLIN, jun. A.L.S. &c. of Lavender Hill, Wandsworth, Surrey.

" What lore with tranquil pleasure better fills
The mind, fair BOTANY! than thine!
Thy paths
Retired, with thy own flowers are ever strewed,
Thy own fresh garlands ever grace thy brow.
Where'er thy votaries thou leadest, whether
Along the silent vale, or verdant lane,
By hedge-row sheltered, or o'er the lone heath,
Whether to rushy pool, green-mantled, or
Through the wild forest's thick-entangled maze,
Whether by softly murm'ring brook, that bright
Reflects its gay-enamelled bank; or 'long
The rocky shore, dashed by the foaming waves
Of Ocean wide; or up the steep ascent
Of rugged mountain, rising to the clouds;
Still pleasure, profit, health, thy steps attend."

Time's Telescope, 1825.

Epipactis Palustris - Marsh Helleborine ♃

C. Mathews, Del. & Sc. Pub.d by W. Baxter, Botanic Garden Oxford 1839

EPIPA'CTIS *.

Linnean Class and Order. GYNA'NDRIA†, MONA'NDRIA.

Natural Order. ORCHI'DEÆ, *Linn.*—Juss. Gen. Pl. p. 64.—Sm. Gram. of Bot. p. 81.; Engl. Fl. v. iv. p. 3.—Lindl. Syn. p. 256; Introd. to Nat. Syst. of Bot. p. 262.—Rich. by Macgilliv. p. 412.—Loud. Hort. Brit. p. 536.—Mack. Fl. Hibern. p. 274.—Macr. Man. Brit. Bot. p. 224.—Hook. Brit. Fl. (4th edit.) p. 425.—PALMARES; order, MUSALES; sect. ORCHIDINÆ; type, ORCHIDACEÆ; Burn. Outl. of Bot. v. i. pp. 391, 437, 458, & 461.

GEN. CHAR. *Perianthium*‡ (see figs. 1 & 2.) superior, 6-parted. *Sepals* (see fig. 1. *b. b. b.*) 3, egg-shaped, pointed, equal, permanent. *Petals* (see figs. 2 & 3.) 2, egg-shaped, as long as the sepals, and, like them, either spreading or converging. *Lip (nectary* of Linn.*)* (see fig. 4, *b.*) inflated at the base, with little or no spur, either entire or with 3 lobes, of which the middle one is the largest, and, as it were, jointed with the others. *Anther* (see fig. 4, *d.* and fig. 5, *b.*) terminating the column (fig. 5, *a.*), rounded, fixed, permanent, of 2 close parallel cells, depositing the inversely egg-shaped, powdery, undivided masses of *pollen* upon the *stigma* (see fig. 5, *c*). *Germen* (fig. 1, *a.*) inversely egg-oblong, angular, furrowed. *Style (column)* (fig. 5, *a.*) somewhat elongated, incurved; convex at the back; concave in front. *Stigma* (fig. 5, *c.*) in front, close under the anther; prominent, angular, various in form, undivided. *Capsule* (fig. 6.) elliptic-oblong, angular, ribbed. *Seeds* (figs. 7 & 8.) small, roundish, with a lax *tunic*, greatly elongated at each end.

The *lip* without a spur; the plano-convex *column*, with 2 teeth at the apex; the terminal, persistant *anther;* and the powdery *pollen-masses*, eventually fixed to the back of the *stigma* (see fig. 5), will distinguish this from other genera in the same class and order.

Six species British.

EPIPA'CTIS PALU'STRIS. Marsh Helleborine.

SPEC. CHAR. Leaves spear-shaped, clasping the stem. Bracteas mostly shorter than the slightly drooping flowers. Perianth spreading. Lip longer than the petals, 3-lobed, middle lobe oval, crenate, retuse, with a notched protuberance on the disk.

Hook. Fl. Lond. t. 89.—Willd. Sp. Pl. v. iv. pt. i. p. 84.—Sm. Engl. Fl. v. iv. p. 42.—Gray's Nat. Arr. v. ii. p. 212.—Lindl. Syn. p. 259.—Hook. Brit. Fl. p. 378.—Macr. Man. Brit. Bot. p. 229.—Hook. Fl. Scot. p. 254.—Fl. Devon. pp. 145 and 132.—Johnst. Fl. of Berw. v. i. p. 193.—Winch's Fl. of Northumb. & Durh. p. 57.—Walker's Fl. of Oxf. p. 259.—Perry's Pl. Varvic. Selectæ, p. 74.—Bab. Fl. Bath. p. 50.—Mack. Catal. Pl. of Irel. p. 77.; Fl. Hibern. p. 280.—*Serapias palustris*, Scop. Fl. Carn. v. ii. p. 204.—Sm. Fl. Brit. v. iii. p. 943.—With. (7th

Fig. 1. Germen and Sepals.—Fig. 2. A Flower, showing the 3 sepals, the 2 petals, and the lip.—Fig. 3. A Petal.—Fig. 4. A Flower with the sepals and petals taken off; *a.* the germen; *b.* the lip; *c.* the column; *d.* the anther; *e.* the stigma.—Fig. 5. the Column bearing the anther, *b*, and the stigma, *c.*—Fig. 6. A Capsule.—Figs. 7 & 8. Seeds.—Figs. 3, 4, 5 & 8, *more or less magnified.*

* Name given to some kind of *Helleborine* by the Greeks.

† See folio 8, note †. ‡ See folio 33, note ‡.

edit.) v. ii. p. 46.—Lightf. Fl. Scot. v. i. p. 527.—Davies' Welsh Bot. p. 83.—Relh. Fl. Cant. (3rd edit.) p. 367.—*Serapias longifolia*, Linn. Syst. Nat. ed. 12. v. ii. p. 593.—Sibth. Fl. Oxon. p. 14.—Abbot's Fl. Bedf. p. 196.—Purt. Midl. Fl. v. ii p. 429.; and v. iii. p. 380.—*S. longifolia*, *β. γ.* Linn. Sp. Pl. p. 1345.—*S. latifolia*, γ, Hnds. Fl. Angl. (2nd ed.) p. 393.—*Helleborine palustris nostras*, Ray's Syn. p. 384.

Localities.—In marshy and boggy places, especially on a chalky or gravelly soil; not uncommon.

Perennial.—Flowers in July and August.

Root creeping horizontally, somewhat woody, throwing out many long, zigzag, fleshy, simple fibres. *Stem* about a foot high, upright, simple, round, purplish, leafy; the base surrounded by the cylindrical sheath of the leaves. Lower *leaves* inclining to egg-shaped, a good deal sheathing at the base; the upper ones spear-shaped, tapering to a point, somewhat keeled, striated. *Flowers* several, rather handsome, disposed in a terminal, lax, oblong, somewhat unilateral spike, drooping, each on a short, downy *pedicel*, with a spear-shaped *bractea* at its base; the lower one of which is longer than the flower, the upper ones shorter. *Sepals* (fig. 1, *b. b. b.*) spreading, equal, greenish, marked with purple lines, egg-shaped, slightly concave. *Petals* spreading, egg-shaped (see fig. 3), marked at the base with purple lines. *Lip* (fig. 4, *b.*) longer than the sepals, white, elegantly striped, and variegated with crimson; its terminal lobe rounded, or heart-shaped, without a point, concave, the margin strongly and unequally notched and crenated, the disk furnished at the base with an elevated notched crest. *Germen* between linear and oblong, of a darkish purple, twisted, downy, tapering below into a pedicel. *Column* (fig. 5, *a.*) much shorter than the lip, nearly cylindrical. *Anther* (fig. 5, *b.*) terminal, attached by its base, jointed, upright, pale yellow, broadly egg-shaped, with 2 cells, which open longitudinally, and deposit their oblong, yellowish *pollen-masses* on the upper edge of the glutinous *stigma* (see fig. 5, *c.*).

Linnæus gave the name of *longifolia* to this *Epipactis*, but as that name is more applicable to another species, the one by which Scopoli and Lightfoot called it, and which is more suitable, is now generally adopted. Mr. Hudson supposed this to be var. γ. of *Epipactis latifolia*, and, from some strange mistake, he has asserted, that this plant, if removed into a garden, or dry soil, changes the following year to that species; but the two are unquestionably perfectly distinct, and the different lengths of the *lip*, and the shape of the *germens*, will always discriminate them. See *Hook. Fl. Lond.;* and *Sm. Engl. Fl.*

For the specimen figured in the accompanying plate I am indebted to the kindness of W. Wilson Saunders, Esq. who gathered it in the Peat-pits at Weston-on-the-Green, July 13, 1838. The flowers were rather less coloured than they are in general; and in some specimens, from the same locality, they were quite white.

This species is not uncommon in boggy places near Oxford; as on the N. side of Shotover Hill; bogs under Bullington Green; near Stow Wood; right hand side the road near the 4th mile-stone going to Ensham; and in a wood between Church Handborough and Freeland.

Apargia hispida. Rough Hawk bit. 4

J. Russell, Del. Pub.d by W. Baxter, Botanic Garden, Oxford 1839. W. Wilkins Sc.

APA'RGIA*.

Linnean Class & Order. SYGENE'SIA†, POLYGA'MIA, ÆQUALIS‡.

Natural Order. COMPO'SITÆ§, *(Linn.)*, tribe, CICHORA'CEÆ, Lindl. Syn. pp. 140 & 156.; Introd. to Nat. Syst. of Bot. pp. 197 and 201.—Loud. Hort. Brit. pp. 520 & 521.—Mack. Fl. Hibern. pp. 142 & 159.—Hook. Brit. Fl. (4th ed.) p. 410.—CICHORA'CEÆ, Juss. Gen. Pl. p. 168.—Sm. Gr. of Bot. p. 120.—SYNANTHE'REÆ, Rich. by Macgilliv. p. 454.—SYRINGALES; subord. ASTEROSÆ; type, CICHORACEÆ; Burn. Outl. of Bot. pp. 900, 901, & 935.

GEN. CHAR. *Involucrum (common calyx)* (fig. 1.) imbricated, the innermost scales equal, outer ones smaller. *Corolla* compound, of numerous, imbricated, uniform, perfect, strap-shaped, blunt, 5-toothed florets (fig. 2.). *Filaments* (see fig. 3.) 5, hair-like, very short. *Anthers* (see fig. 3.) united into a cylindrical tube. *Germen* (see fig. 2.) oblong. *Style* (see fig. 3.) thread-shaped, prominent. *Stigmas* 2, recurved. *Seed-vessel* none, except the converging, finally spreading, calyx. *Seed* (see fig. 4.) oblong, striated. *Pappus (down)* (see fig. 4, *b*.) feathery, sessile; some of the hairs scaly, others silky. *Receptacle* (see fig. 4, *a*.) naked, pitted.

The imbricated *involucrum;* the naked, pitted *receptacle;* and the *seeds* all with feathery, sessile *pappus;* will distinguish this from other genera in the same class and order.

Three species British.

APA'RGIA HISPIDA. Bristly Hawkbit. Rough Hawkbit. Common Rough Dandelion.

SPEC. CHAR. Scape naked, single-flowered. Leaves toothed, rough with forked hairs. Involucrum hairy. Flowers drooping in the bud. Florets hairy at their orifice; glandular at the tip.

Willd. Sp. Pl. v. iii. pt. iii. p. 1552.—Sm. Engl. Fl. v. iii. p. 351.—Lindl. Syn. p. 162.—Hook. Brit. Fl. p. 341.; Fl. Scot. p. 227.—Grev. Fl. Edin. p. 167.—Fl. Devon. pp. 130 and 155.—Johnston's Fl. of Berw. v. i. p. 175.—Winch's Fl. of Northumb. & Durh. p. 51.—Walker's Fl. of Oxf. p. 224.—Bab. Fl. Bath. p. 29.—Mack. Catal. of Pl. of Irel. p. 70.; Fl. Hibern. p. 166.—*Thrincia hispida*, Macr. Man. Brit. Bot. p. 141.—*Hedypnois hispida*, Engl. Bot. t. 554.—Sm. Fl. Brit. v. ii. p. 823.—Davies' Welsh Bot. p. 74.—Relh. Fl. Cantab. (3rd edit.) p. 320.—*Hedypnois hispidum*, Huds. Fl. Angl. (2nd ed.) p. 340.—*Leontodon hispidum*, Curt. Fl. Lond. t. 314.—Linn. Sp. Pl. p. 1124.—With. (7th ed.) v. iii. p. 809.—Lightf. Fl. Scot. v. i. p. 433.—Sibth. Fl. Oxon. p. 239.—Abb. Fl. Bedf. p. 170.—Purt. Midl. Fl. v. ii. p. 366.—*Virea hispida*, Gray's Nat. Arr. v. ii. p. 429.—*Deus leonis hirsutus leptocaulis, Hieracium dictus*, Ray's Syn. p. 171.—*Hieracium dentis leonis folio hirsutum.* Johnson's Gerarde, p. 303.

LOCALITIES.—In meadows and pastures; common.

Perennial.—Flowers in June, July, and August.

Fig. 1. The Involucrum.—Fig. 2. A single Floret.—Fig. 3. The Stamens and Pistil, showing the filaments, the united anthers, the germen, style, and stigmas.—Fig. 4, The Receptacle, with the scales of the involucrum (*a*); and the seed and pappus (*b*).

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* Name of uncertain origin. *Apargia*, Gr. was applied to some plant of this tribe. HOOKER.

† See folio 91, note †. ‡ See folio 147, note ‡. § See folio 27, *a*.

Root tapering, often ending abruptly, as if bitten off; of a dark brown colour, furnished with numerous fibres of a paler colour, running straight into the earth. *Leaves* numerous, oblong, or somewhat spear-shaped, bluntish, tapering at the base into a leaf-stalk, indented and toothed, of a pale green colour, hairy, hairs generally forked at the extremity, sometimes simple, or 3-cleft. *Scapes (stalks)* usually several from the same root, upright, from 8 inches to a foot, or a foot and a half high, simple, round, hollow, without bracteas, rough with similar hairs to those of the leaves, striated and thickened upwards, purplish at the base. *Flowers* drooping in the bud, upright when expanded, smaller than those of the common Dandelion (t. 163). *Involucrum* (fig. 1.) somewhat egg-shaped, hairy, of a brownish green colour. *Florets* (fig. 2.) strap-shaped, bright yellow, the outer ones greenish or reddish beneath; all with a few long, yellow, upright hairs at the top of the tube externally, and a small triangular tuft of brown glands at the back of each of their 5 teeth; these glands were first noticed by the late Mr. SOWERBY. *Seed* uniform, oblong, slender, nearly as long as the *pappus*, which is sessile, and consists of numerous feathery rays, unequal in length. *Receptacle* (see fig. 4.) flat, naked, and dotted.

This plant is subject to much variation, both in size and hairiness. It is common in meadows and pastures almost everywhere, but especially on a chalky or lime-stone soil. "In such sort of pastures," observes Mr. CURTIS, "it abounds as much as the common *Dandelion* does in rich cultivated ones; and when in flower, which is usually in July, cloaths them in the same golden livery."

According to the observations of LINNÆUS, the flowers open at four o'clock in the morning, and close at three in the afternoon.

A variety of this, with the *involucrum* and the *scape* (except about 2 or 3 inches at the base of the latter) destitute of hairs, grows in the old stone-pits at Headington Quarry, near Oxford, where I observed it, in flower, June 15, 1831.

"Flowers! Flowers! bright merry-faced flowers!
I bless ye in joyous or saddened hours:
I love ye dearly,
Ye look so cheerly.
In Summer, Autumn, Winter, or Spring,
A flower is to me the loveliest thing
That hath its birth
On this chequered earth:—
Oh! who will not chorus the lay I sing!

Flowers! Flowers! who loveth them not?
Who hath his childhood's sports forgot?
When daisies white,
And king-cups bright,
And snowdrops, cowslips, and daffodils
Lured us to meadows, and woods and rills:
And we wandered on,
Till a wreath was won
Of the heather-bells crowning the far-off hills."

L. A. TWAMLEY.

Sium latifolium. Broad-leaved Water Parsnep. 2

I. Russell Del. Pub.d by W. Baxter, Botanic Garden Oxford 1839 W. Wilkes Sc.

SI'UM *.

Linnean Class and Order. PENTA'NDRIA †, DIGY'NIA.

Natural Order. UMBELLI'FERÆ ‡, Juss. Gen. Pl. p. 218.—Sm. Gram. of Bot. p. 132.—Lindl. Syn. p. 111; Introd. to Nat. Syst. of Bot. p. 4.—Rich. by Maegilliv. p. 463.—Loud. Hort. Brit. p. 517.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 235.—Mack. Fl. Hibern. p. 113.—UMBELLATÆ, *Linn.*—ROSALES; sect. ANGELICINÆ; type, ANGELICACEÆ; subtype, ANGELICIDÆ; Burn. Outl. of Bot. v. ii. pp. 614, 770, 773, & 774.

GEN. CHAR. *Flowers* (figs. 1 & 2.) all uniform, generally perfect. *Calyx* of 5 small teeth, or obsolete. *Corolla* (figs. 1 & 2.) of 5, inversely heart-shaped petals, with an inflexed point. *Filaments* (see fig. 2.) 5, thread-shaped, spreading, longer than the corolla. *Anthers* roundish. *Germen* inferior, roundish egg-shaped, striated. *Styles* (see fig. 6.) 2, cylindrical, more or less spreading, moderately swelling at the base, shorter than the petals, permanent. *Stigmas* blunt. *Fruit* (figs. 5 & 6.) egg-shaped, or globose, compressed at the sides, or contracted and nearly double, crowned by the disk and reflexed styles. *Carpels* (see fig. 7.) with 5, rather blunt *ribs*, and many *vittæ* in the interstices. *Universal Involucrum* various; *partial* of many leaves.

The 5-toothed *calyx;* the emarginate *petals*, with an inflexed point; the egg-shaped, or globose *fruit*, crowned with the depressed base of the reflexed styles; and the *carpels* with 5 thread-shaped ribs, with many vittæ in their interstices; will distinguish this from other genera in the same class and order.

Two species British.

SI'UM LATIFO'LIUM. Broad-leaved Water-parsnep, Great Water-parsnep.

SPEC. CHAR. Stem upright. Leaves pinnated; leaflets oblong-spear-shaped, equally serrated. Umbels terminal.

Engl. Bot. t. 204.—Hook. Fl. Lond. t. 110.—Jacq. Fl. Austr. v. i. p. 42. t. 66.—Linn. Sp. Pl. p. 361.—Huds. Fl. Angl. (2nd ed.) p. 118.—Willd. Sp. Pl. v. i. pt. II. p. 1431.—Sm. Fl. Brit. v. i. p. 312.; Engl. Fl. v. ii. p. 56.—With. (7th ed.) v. ii. p. 378.—Lindl. Syn. p. 121.—Hook. Brit. Fl. p. 125.—Macr. Man. Brit. Bot. p. 99.—Don's Gen. Syst. of Gard. and Bot. v. iii. p. 295.—Lightf. Fl. Scot. v. ii. p. 1095.—Sibth. Fl. Oxon. p. 96.—Abbot's Fl. Bedf. p. 62.—Davies' Welsh Bot. p. 28.—Relh. Fl. Cant. (3rd ed.) p. 118.—Purt. Midl. Fl. v. iii. p. 26.—Hook. Fl. Scot. p. 90.—Grev. Fl. Edin. p. 64.—Winch's Fl. of Northumbl. & Durh. p. 18.—Walker's Fl. of Oxf. p. 78.—Mack. Catal. of Pl. of Irel. p. 28.; Fl. Hibern. p. 120.—*Sium latifolium, foliis variis*, Ray's Syn. p. 211.—*Sium majus latifolium*, Johnson's Gerarde, p. 256. f. 1.; also *S. majus angustifolium*, ibid.—*Drepanophyllum palustre*, Gray's Nat. Arr. v. ii. p. 504.—*Coriandrum latifolium*, Crantz. Austr. p. 219.

LOCALITIES.—In ditches, margins of rivers, and ponds; not uncommon.—*Oxfordshire;* Common about Oxford.—*Berks;* Ditches about Radcot Bridge near Faringdon: Mr. FARDON. Ditches by the Thames above Maidenhead: N. J. WINCH, Esq.—*Beds.* Common: Rev. C. ABBOT.—*Bucks;* Ditches near

Figs. 1 & 2. A separate Flower.—Fig. 3. A Petal.—Figs. 4, 5, & 6. Fruit.—Fig. 7. A transverse section of a Carpel, showing the Vittæ.—Fig. 8. Two leaflets of a submersed Leaf.—Figs. 2, 3, 6, & 7, *magnified*.

* From *sia*, *water*, in *Celtic;* habitation of most of the species.
† See folio 18, note †. ‡ See folio 235, *a*.

Eton: Mr. Gotobed.—*Cambridgesh.* Rivers and ditches: Rev. R. Relhan. In the brook between Barton and Grantchester: W. H. Coleman, in N. B. G.—*Cumberland;* Near Keswick: Mr. Hutton.—*Dorset;* In the Stour, in many places; in the Froome and Piddle, near White Cliff, by Blandford: Dr. Pulteney.—*Durham;* In a pond near the Friar's Goose, east of Gateshead: N. J. Winch, Esq.—*Essex;* In the Rhodon near Wanstead: Mr. J. Woods, jun. About Woodford: *Fl. Metr.*—*Gloucestersh.* Near Bristol: Miss Worsley, in N. B. G.—*Hants;* Near Fordingbridge: Dr. Maton.—*Kent;* Northfleet: Martyn. Common near Faversham: E. Jacob, Esq. 1777. South Kent: Rev. G. E. Smith. Tunbridge Town: *Fl. Tun.* Between Greenwich and Woolwich; between Lee and Eltham; and in the river by the road-side at Mary Cray: *Fl. Metr.*—*Leicestersh.* In the river Soar between Loughborough and Leicester; above the Castle Mill, at Leicester: Dr. Pulteney.—*Lincolnsh.* Near Friestone; 1826: Dr. Howitt, in N. B. G.—*Middlesex;* Brick-field near Tyburn Turnpike; and between Rotherhithe and Deptford: Martyn. River at Harefield: *Fl. Metr.* Thames side between Hampton Court and village: Mr. Watson, in N. B. G.—*Norfolk;* Furze rivulet, Diss; and frequent near Bungay: Mr. Woodward. Ditches at Acle by the side of the road, between Yarmouth and Norwich, plentiful; and elsewhere in the county, not uncommon: D. Turner, Esq.—*Northumb.* Ditches near Alnwick: Mr. R. Embleton, in N. B. G.—*Notts.* Old Trent ditches, near Averham Meadows (Ordoyno); banks of the Grete, near Southwell: N. B. G.—*Somersetsh.* Burtle Turf-moor; ditches in the Sedgmoors, frequent: J. C. Collins, in N. B. G.—*Suffolk;* Near Bungay; banks of the Waveney between Bungay and St. Olaves: Mr. Woodward. In the larger ditches near the river at Beccles; and at Woolingham; Cove, &c.: Rev. G. Crabbe. Marshes between Yarmouth and Burgh Castle: Mr. Wigg.—*Surrey;* Barnes Common: *Fl. Metr.* Thames above Hampton Court Bridge: Mr. Watson, in N. B. G.—Common in *Sussex:* W. Borrer, Esq.—In *Warwickshire:* Rev. W. T. Bree—*Westmoreland;* Stockbeck: N. B. G.—*Worcestersh.* Blakedown Pool near Stourbridge: T. Purton, Esq. By the Wier, at Newman's Bridge, near the Devil's Den, Clifton-on-Teme: Mr. Lees.—*Yorkshire;* Ditch at York; Foss Navigation near York, in plenty; near Whitgift on the banks of the Ouse: B. G. Leeds: H. Denny, in N. B. G.—WALES. *Anglesey;* In Cors ddygai, near Berw; rare: Rev. H. Davies.—In SCOTLAND and IRELAND, but not common.

Perennial.—Flowers in July and August.

Root fleshy, creeping, with many long fibres. *Stems* from 3 to 6 feet high, upright, smooth, angular, and deeply furrowed, hollow, leafy, not much branched. *Leaves* pinnate, of from 2 to 6 pair of large, opposite, spear-shaped, pointed leaflets, with an odd one, all sharply and regularly serrated; those of the leaves which grow under water being often doubly pinnatifid, with very narrow segments. *Umbels* large, terminal or axillary, stalked, many-rayed, flattish. *Universal* and *Partial Involucrums* of several spear-shaped, sometimes serrated, leaves, with membranous margins. *Flowers* white; teeth of the *calyx* elongated; *petals* nearly equal, inversely heart-shaped, inflexed. *Fruit* small, shortly egg-shaped, striated. *Styles* permanent, reflexed, slightly tumid at the base. *Carpels* (fig. 7.) with 5 stout, rounded, prominent ribs; the interstices striated; with many vittæ; the commissure (inner face of the carpel) with 6 vittæ.

This plant is a native throughout the whole of Europe and North America, in ditches and marshes. It is of an acrid and poisonous quality, particularly the roots. According to the observations of Linnæus, horses and swine eat it; sheep are not fond of it; cows and goats refuse it. The roots are noxious to cattle, rendering them quarrelsome and pugnacious. The seeds are aromatic and warm to the taste.

Coronopus Ruellii. Common Wart-cress. ⊙

C. Mathews Del. & Sc. Pub.d by W. Baxter Botanic Garden Oxford 1839

CORO'NOPUS*.

Linnean Class and Order. TETRADYNA'MIA†, SILICULO'SA‡.
Natural Order. CRUCI'FERÆ§, Juss. Gen. Pl. p. 237.—Sm. Gram. of Bot. p. 138.; Engl. Fl. v. iii. p. 153.—Rich. by Macgilliv. p. 493.—CRUCIFERÆ; subord. NOTORHIZEÆ‖; tribe, LEPIDINEÆ; Lindl. Syn. pp. 20, 21, 29, & 30.; Introd. to Nat. Syst of Bot. pp. 14 to 18.—Loud. Hort. Brit. pp. 498 & 499.; Mag. Nat. Hist. v. i. pp. 143 & 240.—Don's Gen. Syst. of Gard. and Bot. v. i. pp. 146 & 201.—Mack. Fl. Hibern, pt. i. pp. 16, 23, & 25.—Hook. Brit. Fl. (4th ed.) p. 397.—ROSALES; subord. RHŒADOSÆ; sect. RHŒADINÆ; type, BRASSICACEÆ; Burn. Outl. of Bot. v. ii. pp. 614, 784, 847, & 853.—SILIQUOSÆ, *Linn.*

GEN. CHAR. *Calyx* (fig. 1.) inferior, equal at the base, of 4 egg-shaped, concave, spreading, deciduous sepals. *Corolla* (fig. 2.) of 4 egg-shaped, or inversely egg-shaped, undivided petals, sometimes wanting. *Filaments* (see figs. 2, 3, & 4.) 6, awl-shaped, simple, about the length of the calyx, 2 or 4 of them occasionally wanting. *Anthers* roundish, 2-lobed, *Germen* (see figs. 4 & 5.) roundish, or 2-lobed, compressed. *Style* very short. *Stigma* blunt. *Pouch (silicle)* (figs. 6 & 7.) roundish, transversely compressed, more or less distinctly 2-lobed, 2-celled, not bursting, tipped with the style; *valves* globular, or roundish, somewhat crested, rugged, each containing a solitary, pendulous, roundish, 3-cornered *seed* (fig. 9.), with incumbent, strap-shaped cotyledons (fig. 10).

Distinguished from other genera, in the same class and order, by the nearly entire, 2-lobed, transversely compressed, wrinkled, indehiscent *pouch*, of two 1-seeded cells; and the roundish, 3-cornered *seeds*, with strap-shaped, incumbent *cotyledons*.

Two species British.

CORO'NOPUS RUE'LLII. Common Wart-Cress‖. Swine's-Cress. Buck's-Horn. Herb-Ivy. Herb-Eve.

SPEC. CHAR. Leaves pinnatifid, subdivided. Pouch undivided, crested, with little sharp points. Style prominent.

Engl Bot. t. 1660.—Johnson's Gerarde, p. 427. f. 2.—Bauh. Hist. v. ii. p. 919.—Gærtn. v. ii. p. 293. t. 142. f. 5.—Sm. Fl. Brit. v. ii. p. 690.—With. (7th ed.) v. iii. p. 764.—Lindl. Syn. p. 30.—Hook. Brit. Fl. p. 294.—Macr. Man. Brit. Bot. p. 20.—Davies' Welsh Bot. p. 63.—Relh Fl. Cant. (3rd ed.) p. 263.—Hook. Fl. Scot. p. 193.—Grev. Fl. Edin. p. 139.—Fl. Devon. pp. 107 & 187.—Jacob's W. Devon. and Cornw. Fl.—Mack. Catal. of Plants of Irel. p. 60.; Fl. Hibern. p. 25.—*Corónopus coadunata*, Gray's Nat. Arr. v. ii. p. 689.—*Cochleária Corónopus*, Linn. Sp. Pl. p. 904.—Huds. Fl. Angl. (2nd edit.) p. 284.—Willd. Sp. Pl. v. iii. pt. i. p. 450.—Lightf. Fl. Scot. v. i. p. 345.—Sibth. Fl. Oxon. p.

Fig. 1. Calyx.—Fig. 2. A separate Flower.—Fig. 3. A separate Stamen.—Fig. 4. The six Stamens, the Glands or Nectaries, and the Pistil.—Fig. 5. The Germen, Style, and Stigma. Fig. 6. The same.—Fig. 7. The Pouch, the valves forced a little apart.—Fig. 8. A transverse section of a Pouch.—Fig. 9. A Seed.—Fig. 10. The Cotyledons, and the Radicle.—*All magnified;* figs. 3, 6, 8, 9, & 10, *highly so.*

* From *korone*, Gr. a *crow;* and *pous*, Gr. a *foot;* illustrative of the shape of its leaves; though the name of *Crowfoot* be more appropriately attached to *Ranunculus*. WITHERING.

† See folio 38, note †. ‡ See folio 107, note ‡. § See folio 38, *a*.

‖ From the pouch being covered as it were with warts. (corrugated).

200.—Abbot's Fl. Bedf. p. 141.—Mart. Fl. Rust. t. 92.—Purt. Midl. Fl. v. i. p. 299.—*Senebiéra Corónopus*, De Cand. Syst. v. ii. p. 525.—Pers. Syn. v. ii. p. 185.—Sm. Engl. Fl. v. iii. p. 179.—Johnst. Fl. of Berw. v. i. p. 142.—Winch's Fl. of Northumb. and Durh. p. 43.—Don's Gen. Syst. of Gard. and Bot. v. i. p. 216.—Walker's Fl. of Oxf. p. 186.—*Nasturtium supinum, capsulis verrucosis*, Ray's Syn. p. 304.

Localities.—On waste ground, and by way-sides, on calcarious and sandy soils; common.

Annual.—Flowers from June to September.

Root tapering. *Stems* spreading immediately from the crown of the root in a star-like form, and lying quite flat on the ground; leafy, smooth, much branched. *Leaves* alternate, of a somewhat glaucous green colour, smooth, irregularly, and deeply pinnatifid; the lateral lobes strap-shaped, entire on the lower edge, often subdivided in a pinnatifid manner on the upper; the terminal lobe strap-shaped, very entire. *Flowers* very small, opposite to the leaves, in small close corymbs. *Sepals* egg-shaped, concave, spreading, deciduous. *Petals* white, somewhat egg-shaped, entire. *Pouches* in dense, spike-like clusters, much shorter than the leaves, kidney-shaped, undivided, depressed on the sides, 2-celled, curiously crested with little sharp points, and terminated by the short conical style; one of the cells is occasionally empty, in which case the fertile seed expands, and almost fills up the *seed-vessel*. *Seed* egg-shaped, one in each cell. *Cotyledons* rather oblong and channelled than strap-shaped (see fig. 10).

This plant was formerly gathered and used as a salad, but is now deservedly neglected, the whole herb being nauseously acrid and fetid, and must require much boiling to render it eatable.

CHORUS OF FLOWERS.

Hear our tiny voices, hear!
Lower than the night-wind's sighs;
'Tis we that to the sleeper's ear
Sing dreams of heaven's melodies!
Listen to the songs of flow'rs—
What music is there like to ours?

Look on our beauty—we were born
On a rainbow's dewy breast,
Then cradled by the moon or morn,
Or that sweet light that loves the West!
Look upon the face of flow'rs—
What beauty is there like to ours?

You think us happy while we bloom,
So lovely to your mortal eye;—
But we have hearts, and there's a tomb
Where ev'n a flow'ret's peace may lie!
Listen to the songs of flow'rs—
What melody is like to ours?

Hear our tiny voices, hear!
Lower than the night-wind's sighs,—
'Tis we that to the sleeper's ear
Sing dreams of heaven's melodies!
Listen to the songs of flow'rs—
What melody is like to ours?

Bentley's Miscellany.

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PLATE

MONANDRIA. 1 *stamen.*

Salicornia herbacea . . 307

TRIANDRIA. 3 *stamens.*

Schænus nigricans . . 268
Scirpus maritimus . . 264
Blysmus compressus . 308
Nardus stricta . . . 309
Lagurus ovatus . . 256
Milium effusum . . . 247
Catabrosa aquatica . . 252
Poa annua . . . 288
Avena pubescens . . 292
Holosteum umbellatum . . 299

TETRANDRIA. 4 *stamens.*

Scabiosa succisa . . 277
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Sherardia arvensis . . 244
Centunculus minimus . . 296
Alchemilla vulgaris . 280
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PENTANDRIA. 5 *stamens.*

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Lonicera Periclymenum . 287
Claytonia alsinoides . . 253
Glaux maritima . . 246
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Sium latifolium . . . 319
Meum Athamanticum . 314
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Scandix Pecten-Veneris . 272
Salsola Kali . . . 255
Herniaria hirsuta . . 304
Corrigiola littoralis . . 312

HEXANDRIA. 6 *stamens.*

Oxyria reniformis . . 311

OCTANDRIA. 8 *stamens.*

Œnothera biennis . . 257

DECANDRIA. 10 *stamens.*

Monotropa Hypopitys . . 275
Cherleria Sedoides . . 316
Cotyledon Umbilicus . . 279
Cerastium arvense . . 256

DODECANDRIA. 12 *to* 19 *stamens.*

Asarum Europæum . . 250

ICOSANDRIA. 20 *or more stamens, placed on the calyx.*

Fragaria vesca . . 242
Potentilla rupestris . . 313
Dryas octopetala . . 248

PLATE

POLYANDRIA. 20 *or more stamens, placed on the receptacle.*

Tilia Europæa . . . 293
Nuphar lutea . . 281 & 282
Delphinium Consolida . 297
Thalictrum flavum . . 254
Ranunculus acris . . 302
Trollius Europæus . . 241

DIDYNAMIA. 4 *stamens; two longer than the other two.*

Melittis Melissophyllum . 285
Rhinanthus Crista-Galli . 259
Pedicularis sylvatica . . 266

TETRADYNAMIA. 6 *stamens; 4 longer than the other* 2.

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Coronopus Ruellii . . 320
Nasturtium officinale . . 271

DIADELPHIA. *Filaments united in two sets.*

Fumaria officinalis . . 278
Polygala vulgaris . . 251
Ononis antiquorum . . 289
Trifolium pratense . . 283
Lotus corniculatus . . 249

SYNGENESIA. *Anthers united into a tube. Flowers compound.*

Helminthia echioides . . 270
Picris hieracioides . . 274
Apargia hispida . . 318
Lactuca virosa . . 315
Onopordum Acanthium . . 273
Gnaphalium dioicum . 243
Conyza squarrosa . . 290
Inula Helenium . . 265
Chrysanthemum segetum . 306

GYNANDRIA. *Stamens situated upon the style or column, above the germen.*

Aceras anthropophora . . 305
Herminium monorchis . 295
Goodyera repens . . 309
Epipactis palustris . . 317

MONŒCIA. *Stamens and Pistils in separate flowers, but both on the same plant.*

Sparganium simplex . . 276
Littorella lacustris . . 284
Urtica dioica . . . 298
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N. B. When *a* follows the number of the folio, it indicates a reference to the second page of that leaf.

Corrections, &c.

Folio 237, *a*. (v. iii.) line 25 from the bottom, *for* Anthers *read* Filaments.
Folio 268, line 22, *for* NIGRI'CANS, *read* NI'GRICANS.
Folio 272, *a*. line 4 from the bottom, *for* 'cape, *read* 'scape.
Folio 275, *a*. line 1 from the bottom, *for* effected, *read* affected.
Folio *181 & 182, *a*. line 9, *for* tpye, *read* type.
Folio 290, *a*. line 22, *for* fanied, *read* fancied.
Folio 302, *a*. line 3 from the bottom, *for* ?, *read* !.
Folio 304, line 9, *for* 544, *read* 594.

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